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# MILK REVIEW

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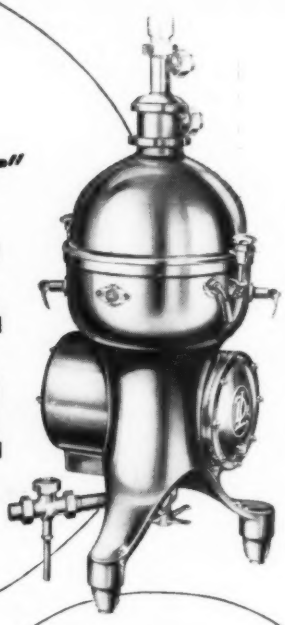

**CAPACITIES:**

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**1.** Separates milk at temperatures as low as 40 deg. F.

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**3.** Produces cream containing as low as 23% butterfat. Viscosity of the separated cream is very high.

**4.** No buttering or plugging bowl with heavy cream.

**5.** Bowls interchangeable with bowls now installed.

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XUM

M. J. KLUGER

# Today's Big Question Is — WHERE DO YOU BREAK EVEN?

*By* **M. J. KLUGER**

***Accountant and Dairy Consultant***

THE IMPORTANCE of the break-even point in the dairy industry is being brought home more and more to milk dealers as the public outcry over high milk prices and the supposedly exhorbitant profits of milk dealers grows louder. In an industry such as milk distribution, the margin of profit on sales is so slim that a comparatively minor decrease in sales without a corresponding decrease in expenses can wipe out all profits. This is axiomatic, and, while all dealers are aware of it in general terms, not too many know exactly at what point their profits stop and losses begin on any given expense structure.

The break-even point may be defined as that volume of sales which will yield a sufficient margin over expenses that vary up or down with sales, to just absorb all other expenses that do not vary up or down with sales. All sales in excess of the break-even point will yield a net profit, and conversely, all sales under the break-even point will result in a loss. Stated another way, for any dealer there is one certain sales volume in excess of his variable expenses that must be maintained in order to cover his fixed expenses. That certain volume is directly dependent on such factors as the size of the dealer, his location, and whether or not he serves milk in regulated market, but the determination of that particular point of break-even, and the use of it in guiding operations and planning for the future is a matter of increasing importance, and will continue to be as long as profit margins remain so small.

Since the very heart of a break-even study is the relationship between fixed and variable expense, it is necessary at the outset to make a careful determination of and division of all expenses into those two classes. First, what is meant by "fixed" and "variable" expenses, and what makes them that way? As the term implies, a "variable" expense is one that constantly changes, or varies. In this case, it is one that varies with sales volume. We know, for example, that to sell 500 quarts of milk we must acquire 500 quarts, at least. To sell 1,000 quarts we must acquire 1,000 quarts, allowing for no waste or shrinkage. Here, then, is a true variable expense. We know, too, that if we have a man operating a filler, his wages must be paid at the same daily rate whether he fills 1,000 quarts or 2,000 quarts. The filler itself is going to depreciate a certain amount each day. Within certain limits, it's going to depreciate about the same amount each day whether 1,200 quarts a day are bottled and sold, or 1,500, or 900. These are fixed expenses, for the man's wages and the filler's depreciation are going to go on each day at the same rate even if sales volume does drop off or increase. Now, expenses in the fluid milk industry logically form themselves into four main categories. First, there is the cost of the milk itself. Second, there are the expenses attendant on the receiving and processing of milk. Third, there are the expenses of distribution, and finally, there are the general administrative expenses. Some of these expenses in each category will vary more or less proportionately with the volume of milk sold, while others will remain constant no matter what the sales volume is. For example, take the cost of milk itself, a variable expense. Ideally, a milk distributor would buy just what he thinks he can sell. Unfortunately, this is not possible to do to any great extent because of the industry's problem of recurring surpluses. A dealer finds it necessary to have a supply sufficient to meet his fall needs, and, in turn, find an outlet for his spring surplus. Spring or Fall, however, he will put a certain quantity of milk in bottles, some cream, some cheese, the volume depending only on seasonal requirements of

### CHEAP AT TWICE THE PRICE

A retailer in Alger, Ohio, recently established milk as a loss leader, selling two quarts for 19c. His competitor, not to be outdone made a similar offer. Then the first one dropped his price again. From then on the battle was waged with ever decreasing prices. By the end of the day, with supplies almost exhausted, it was possible to buy two quarts of milk for the astounding price of one nickel! !

consumers and the dealer's own selling ability within the capacity of his plant. The cost of milk purchased therefore, will vary up or down with the volume sold, but not in direct proportion. In other words, the gross margin on sales can vary considerably, and will so vary, at different times of the year. Here is an illustration of a condition due in some part to size of a dealer, for a larger dealer can more advantageously utilize his surplus, and more readily arrange for supplies in the short season.

The receiving, processing and bottling costs and expenses are mixed in nature, some being variable while others are fixed. Receiving costs will include such items as wages for platform attendants, receivers and weighers, and depreciation of receiving and weighing equipment. These expenses are constant, or fixed in nature. Wages must be paid and depreciation goes on regardless of volume handled and sold. Processing expenses, such as depreciation of equipment and wages of plant personnel are likewise fixed. Still other expenses, such as supplies and materials used, bottles and other packaging supplies, are variable to the extent that the quantities used will depend on volume sold. Even here, there will always be a certain irreducible minimum which will not vary with volume, such as cleaning supplies, power costs, water, etc. In the distribution category, salesmen's commissions are the most variable expense, as they increase or decrease directly with volume sold. Most driver-salesmen, however, receive a guaranteed wage base which, of course, is a fixed expense. Truck depreciation is a fixed expense, as it goes on despite changes in sales volume. Gasoline costs may be fixed to a certain point and variable thereafter. Truck repairs are a fixed expense, to the extent they do not vary with sales volume, but with use and mileage, which may, but often does not, vary with sales volume. In the general administrative expense category we find such items as taxes, insurance, rents, telephone, printing, office supplies, postage, clerical wages, and like expenses which are not directly ascribable to one or the other of the so-called productive departments. Most of these expenses are fixed in nature. Within the capacity of a plant, a certain amount of clerical help will be needed, whether or not the plant is operating at capacity. A plant operating ten routes, say, at 75% of capacity will need about the same clerical help as if it operated at 100% of capacity, or at 60%. Increasing sales volume to the capacity point will not entail any additional help of that kind, nor will losing some volume lessen the necessity for it. The same is true for telephone expense, insurance, taxes, and the rest. Among the taxes, however, a portion of social security taxes will vary with sales volume. That part of social security taxes paid on drivers' commissions is surely a variable expense, in that it will vary with commissions, which in turn will vary directly with sales. Another expense usually classified among the general expenses is bad debts. Here again, bad debts expense is a function of sales, especially where the reserve method of accounting is used, and thus is a variable expense. Another type of expense, found in federal regulated markets, is the charge made against milk dealers by the regulating authority to meet the costs of regulation. This assessment is usually based on production and hence indirectly on sales. As such, it is a variable.

### Must Study Relationship

It is evident at this point that no rule-of-thumb method can be used to segregate expenses into fixed and variable. Each expense classification must be scrutinized and studied in relation to the total capacity and operational methods of a particular plant in order to define properly the fixed and variable components. It is appropriate to note here that the fixed expenses, besides being fixed or non-variable by their very nature, tend in themselves to be fixed by the capacity of a plant, and, in turn, tend to fix the upper ranges of that capacity themselves. For example, assume a plant's capacity to be 4,000 quarts per day. Assume further, that six split routes can handle 75% of capacity, or 3,000 quarts daily, and that the plant is operating at that sales level. The expense of operating the trucks on the six routes is fixed, so far as volume *decrease* is concerned, in that the same number of trucks and the expense of running them will be needed to meet a sales volume of, say, only 2,500 quarts per day. To increase sales volume to *plant* capacity, however, it will be necessary to purchase additional trucks, incur additional insurance and depreciation and gasoline and repair costs, and thus raise the whole level of fixed expenses for the plant. Here two "capacities" are involved: one, the plant's production capacity, the other the sales department's delivery capacity. The delivery system's capacity, a fixed expense, thus limits the upper ranges of the plant's *productive* capacity, which, in turn, cannot be utilized until additional fixed delivery expenses are incurred. Each fixed expense in the whole range throughout the four categories of expenses thus fixes, at some point, the entire capacity of the business.

Once the proper segregation as between fixed and variable expenses has been accomplished, the actual determination of the break-even point is a relatively simple matter. The following figure illustrates a simple break-even point computation:

Consider first the month of January. The total *fixed* expenses are $10,135. The excess of sales over variable expenses is $11,206, or 32.02% of sales. Employing our definition of break-even as that point of sales just sufficient to yield a margin over variable expenses equal to fixed expenses, it is seen that the break-even point in this case must be that amount of sales necessary to yield an excess of $10,135 over the variable expenses of $23,794. By dividing $10,135 by the rate of excess, 32.02%, the break-even point is calculated to be $31,652. That figure of sales, at a 32.02% margin, will yield an excess of $10,135, just equal to the fixed expenses. If there are no changes in selling prices, nor in costs, the ABC Dairy Company must sell $31,652 each month to break even. Any sales in excess of the break-even point will yield a net profit. In this case, $3,348 were sold in excess of break-even, which at the rate of excess of 32.02% result in a net profit of $1,072. Once the break-even point is established, it can serve as a guide to monthly or daily operations. For instance, each day's sales must be $1,021 ($31,652 divided by 31 days) to break even. In our hypothetical illustration, sales per day were

**ABC DAIRY COMPANY**

| | January, 1949 | | February, 1949 | |
|---|---|---|---|---|
| Net Sales | $35,000 | 100.00% | $31,500 | 100.00% |
| Variable Expenses | | | | |
| Products Cost | $20,300 | | $18,270 | |
| Drivers' Commissions | 2,100 | | 1,890 | |
| Containers and Supplies | 1,000 | | 900 | |
| Social Security Taxes | 84 | | 76 | |
| Bad Debts | 35 | | 31 | |
| Freight | 150 | | 135 | |
| Other Supplies | 125 | | 113 | |
| | $23,794 | 67.98% | $21,415 | 67.98% |
| Excess of Sales Over Variables | $11,206 | 32.02% | $10,085 | 32.02% |
| Fixed Expenses | | | | |
| Other Wages and Salaries | $ 4,000 | | $ 4,000 | |
| Depreciation | 1,500 | | 1,500 | |
| Insurance | 125 | | 125 | |
| Social Security Taxes | 160 | | 160 | |
| Repairs | 900 | | 900 | |
| Gas, Oil, Tires | 950 | | 950 | |
| All Other Expenses | 2,500 | | 2,500 | |
| | $10,135 | 28.96% | $10,135 | 32.17% |
| Net Profit | $ 1,071 | 3.06% | | |
| Net Loss | | | $ (50) | .15% |
| Break — Even Point | $31,652 | | $31,652 | |

actually $1,129. It is evident that if sales volume decrease by only $108 per day, about 9%, all profits would disappear. Any loss in sales volume will lower the rate and amount of net profit, even with a commensurate drop in variable expenses. Consider now the figures for February, and assume that in February, sales volume dropped 10%. If the variable expenses have been properly segregated and they vary proportionately with sales volume, each variable item will likewise drop 10%. It can be seen that the gross rate of spread remains the same, that the excess of sales over variables is still 32.02%. However, the fixed expenses, not dependent on sales volume, remain at $10,135. The excess sales, while still 32.02%, are 32.02% on the reduced volume, and now amount to only $10,085, not quite enough to meet the fixed expenses of $10,135, and so a loss of $50 results for February. To overcome that loss and enjoy the same margin of profit as before on the remainder, it would be necessary to increase sales prices, pretty much of an impossibility.

### Selling Price and Volume

If the dollar loss in sales comes about because of a selling price decrease instead of loss in volume, a higher net profit will usually be the result *if* the dollar amount of variable expense is reduced in an amount sufficient to overcome the loss in sales dollars, because, as a matter of practicability, a selling price decrease usually goes hand in hand with a producer price drop in the same or nearly the same amount. As the cost of milk itself is the largest single item of variable expense, the total variables will or should drop somewhat more than the total sales. The following figure illustrates:

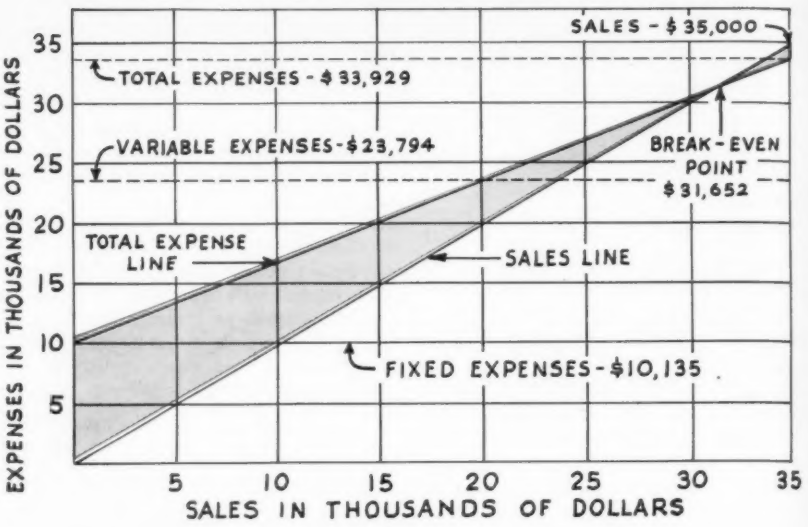
**ABC Dairy Company**
**March, 1949**

| | | |
|---|---|---|
| Net Sales | $31,500 | 100.00% |
| Variable Expenses | | |
| Products Cost | $16,800 | |
| Drivers' Commissions | 1,890 | |
| Containers and Supplies | 1,000 | |
| Social Security Taxes | 76 | |
| Bad Debts | 31 | |
| Freight | 150 | |
| Other Supplies | 125 | |
| | $20,072 | 63.72 |
| Excess of Sales Over Variables | $11,428 | 36.28% |
| Fixed Expenses (Unchanged) | 10,135 | 32.17 |
| Net Profit | $ 1,293 | 4.11% |

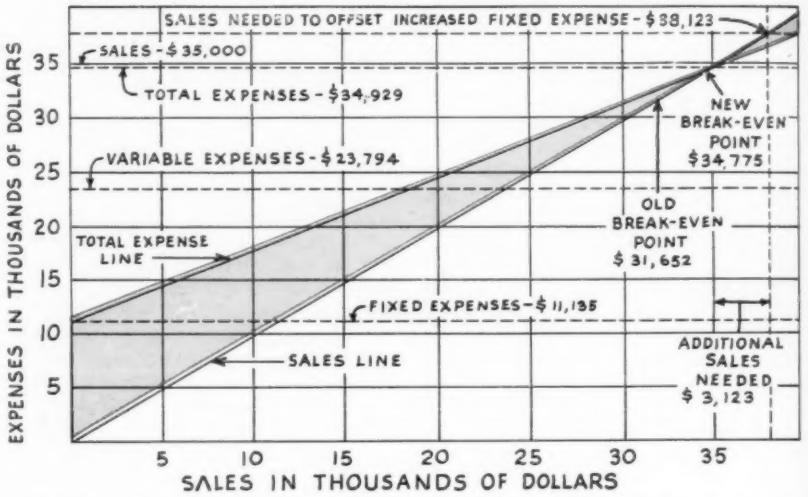
It is assumed here that, on March 1, a price decrease of two cents per quart went into effect and that producer prices likewise dropped two cents per quart. There is no change in volume, and thus all variable expenses but products cost and those variables dependent on sales dollars such as commissions, social security taxes, and bad debts, will remain as heretofore. As both selling price and producer price dropped two cents per quart, the loss in sales revenue is immediately made up through the lower product cost, not at the same *rate*, but in the same absolute dollar amount. As commissions, social security taxes on commissions, and bad debts are based on sales dollars, there is a saving in those expenses too, all of which now result in a greater excess of sales over variable expenses. As an increase in the excess of sales over variables lowers the break-even point automatically, and fixed expenses remain constant, net profits are increased. The lowered break-even point is now only $27,936. Sales in excess of break-even are $3,564, which, at 36.28%, yield a net profit of $1,293.

Once having established a sales - expense - break-even pattern, that pattern may be readily charted as a visual aid to management. In the ABC Dairy Company illustration for January, 1949, that pattern would be charted as in chart A. On the graph, drawn on quadrille ruled paper with equal vertical and horizontal scales, fixed expenses are plotted first. Next, the total expense line is plotted from the fixed expense point on the vertical scale through the total expense point at the sales point. Finally, the sales line is drawn at a 45 degree angle to both scales. Where the sales line crosses the total expense line is the break-even point. With such a chart as a guide, new break-even points can easily be visualized for changing conditions. As an example, the ABC Dairy Company contemplates purchasing all new equipment. Even though it can pay cash, and thus not burden itself with interest charges, the new equipment will mean increased charges for depreciation. The depreciation charge will increase from $1,500 per month to $2,500 per month, increasing total fixed expenses to $11,135. Chart B shows the resulting upping of the break-even point, which now becomes $34,775. To enjoy the same

**GRAPH A — A B C DAIRY BREAK-EVEN POINT**




**GRAPH B — A B C DAIRY BREAK-EVEN POINT**



**NOW... Speed up your Pasteurizing SAFELY...**

with **DAMROW**

**"Vapor Film" Pasteurizers**

- HEATS QUICKLY, SMOOTHLY, ECONOMICALLY WITHOUT "HOT SPOTS" OR BURNT FLAVOR
- PROTECTS YOUR CREAM LINE AND MILK QUALITY
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Make any kind of comparison you can think of in pasteurizing—you'll find the Damrow "Vapor-Film" out on top in every count. It's FASTER because there's no water to heat first, and no chance of building up hard-to-heat deposits of scale, lime, or waterstone. It's SAFER because no steam touches the inner milk tank to "hot-spot" or leave the burnt flavor in your milk . . . only the condensed "Vapor-Film" which provides uniform, smooth and gradual heating. HOLDS milk temperatures steadier, too. Tests show 200 gallons of 145° milk dropped only *two* degrees in 12 hours — 45° cold milk raised only *one* degree in 12 hours. You'll find the Damrow Vapor-Film particularly valuable when processing smaller batches of milk because of its natural "bottom-up" heating principle.

Add up all the advantages of Damrow "Vapor-Film" Pasteurizing and you'll quickly see why it's today's best investment for your plant. You may expect prompt delivery of any size from 50 to 1000 gallons. Write today for complete details.

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DAMROW COMPLETE EQUIPMENT FOR THE DAIRY INDUSTRY

**ABC DAIRY COMPANY**

| | Normal | | Surplus | Total | |
|---|---|---|---|---|---|
| Net Sales | $35,000 | 100.00% | $5,000 | $40,000 | 100.00% |
| Variable Expenses | | | | | |
| Products Cost | $20,300 | | $5,500 | $25,800 | |
| Commissions | 2,100 | | | 2,100 | |
| Containers and Supplies | 1,000 | | | 1,000 | |
| Social Security Taxes | 84 | | | 84 | |
| Bad Debts | 35 | | | 35 | |
| Freight | 150 | | | 150 | |
| Other Supplies | 125 | | | 125 | |
| Total Variable Expense | $23,794 | 67.98 | $5,500 | $29,294 | 73.24 |
| Excess of Sales over Variables | $11,206 | 32.02% | $(500) | $10,706 | 26.76% |
| Total Fixed Expense | 10,135 | 28.96 | | 10,135 | 25.34 |
| Total Net Profit | $ 1,071 | 3.06% | $(500) | 571 | 1.42% |

net profit as before, it is necessary that sales be increased by $3,123 (the spread between the old and new break-even points, viz, $34,775 minus $31,652) to $38,123. Of course, this does not take into consideration the expected economies of operation that will be effected by the modernization of plant, but which likewise can be plotted along the variable expense line. Thus once the basic pattern is plotted, as in chart A, it becomes a simple matter to superimpose plottings for new conditions and determine graphically a new break-even point.

The foregoing illustrations are based on an entire business operating at capacity or near capacity levels. Where new business is acquired in an amount sufficient to overreach either productive or distributive capacity, additional fixed expenses must be incurred, and the straight line graph as illustrated in charts A and B will not suffice until redrawn on the increased fixed expense due to the increased capacity. The principles surrounding the break-even point calculation, however, are constant, and may still be applied to an expanding business. For further internal analysis and guidance, the same principles may be applied also to the determination of a break-even point for each individual route within a business.

### Figure Is Not Static

It must be remembered in calculating a break-even point and in using it as a guide to future operations that its accuracy depends wholly on the variable expense - fixed expense relationship, and that changes in selling prices, costs, and expenses must be carefully incorporated in the computations. In the milk industry especially, an accurate break-even figure is a moving figure rather than a static one, due in great part to the seasonal flush problem. Because of that seasonal surplus problem and its effect on the rate of excess of sales over variable expenses, it may be desirable in some cases, again depending on a dealer's individual problem, to handle surplus in the calculations a somewhat of a by-product. For example, consider our thesis that a milk distributor's procurement function is the acquisition of enough milk to put into bottles to meet his distribution requirements. For any given capacity of plant and distribution, that requirement for any dealer is fairly static, and in any event certainly does not vary proportionately with the production surplus. The cost of the surplus milk can easily be segregated from the over-all cost of milk, eliminated from what might be called the normal cost of milk, and a break-even point calculated on that so-called norm. By so doing, the fluctuations in regular business can be more accurately measured, and the surplus made to stand on its own, as should be the case. The following figure illustrates the method and the result of segregating the cost of surplus:

The break-even point on normal business is $31,652. The break-even point on the total business is $37,824. It may easily be seen that for any dealer whose surplus problem is acute, the segregation method will yield a month by month break-even figure much more accurate than will the total method. Cost of surplus is handled as a separate problem by segregation and of course requires a separate solution in the operational scheme. The problem itself and its solution is partly industry-wide and partly individual and is complex enough in its own right to not permit of discussion in an article of this type.

It may be apparent at this stage that the determination and use of break-even points are problems demanding some careful forethought and planning. It is hoped that the foregoing discussion may prove of a thought-provoking nature in incorporating the use of this additional management tool, but, at the same time, any tendency towards oversimplification must be avoided, and above all it must be constantly borne in mind that considerable individual dealer experience in its calculation and use must be accumulated before the tool can be as productive as it should be.

## A SHORT COURSE ON OXIDIZED FLAVOR

*By* B. E. HUBBELL

*University of California*

*Characteristics of Oxidized Flavor*

It is commonly a winter defect. Slight oxidation is a sweetish flavor. As the intensity develops a "papery" or cardboard sensation develops and finally the tallowy flavor. It develops generally in cream and creamline milk.

*Causes*

1. Oxidation the phospholipide surrounding the fat.
2. Vitamin C content of milk varies during the seasons of the year.
3. Copper and iron traces in milk activate oxidation.
4. Exposure of milk to sunlight activates oxidation.
5. Dry feed promotes oxidation.
6. Incorporation of chlorine and iron from sterilization activates oxidation.

*Recommendations for Control*

1. All new equipment should be inactive metal or glass.
2. Eliminate copper alloys which come in contact with the milk.
3. Retin all copper surfaces which cannot be replaced.
4. Eliminate carry over of chlorine sterilization water into the milk.
5. Hot water and steam used for sterilizing should not contain iron particles.
6. Field and laboratory men inspect ranch equipment and advise green feeds.
7. Delivered retail milk should be protected from the sun.

*Anti-Oxidants*

1. Chemicals and organic derivatives are known which can prevent oxidation. They cannot be used in market milk.
2. Bacteria produce anti-oxidants; because of this, low count milk tends to oxidize more readily.

It is possible that many adults who cannot drink milk developed their dislike in childhood by being forced to drink oxidized milk.

## You can save milk, man-hours and money

# with CHERRY-BURRELL
# Spray Pasteurizers and Sentinel Control

If you are to operate profitably under present-day conditions, every drop of milk, every man-hour must be fully utilized. And modern Cherry-Burrell equipment, such as these Spray Pasteurizers with patented Sentinel Control, points the way toward maximum efficiency with minimum supervision.

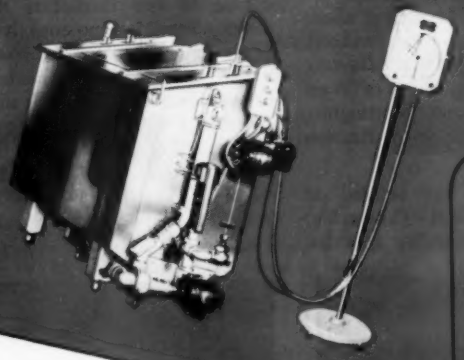
The Cherry-Burrell spray heating principle assures a rich, natural flavor . . . maximum cream layer, good body color, and low bacteria count. Here's *safe* pasteurization that also offers savings in time and manpower with the exclusive patented Sentinel Control. There are no wasted steps checking the temperature . . . "burn-on" is eliminated . . . there's no overheating or underheating. The batch is positively held at the proper temperature, heating is automatically cut off at the end of the holding period.

Let your Cherry-Burrell representative show you how one of these Spray Pasteurizers with the Sentinel Control and other desirable, patented features can improve your production.* It might well be that one — or more — Spray Pasteurizers can start *you* saving milk, man-hours and money.

*If you have a Cherry-Burrell Spray Pasteurizer, find out how the added advantages of the Sentinel Control will increase its effectiveness!

**SPRAY-F**
Complete pasteurizer, with all-welded and polished stainless steel lining. Outer jacket of rust-resisting steel, painted finish. Sizes: 100 and 150 gallons.

**"CC" SPRAY PASTEURIZER**
Stainless steel lining, paddles and covers with welded plate steel jacket, painted finish. Available in 4 sizes—200, 300, 400, and 500 gallons.



**ROUND SPRAY PASTEURIZER**
Lining, covers, paddles of stainless steel — aluminum painted outer finish . . . rust-proof steel. Capacities to 200 gallons.

**CHERRY-BURRELL CORPORATION**
*General Sales and Executive Office:*
427 W. Randolph Street, Chicago 6, Ill.
*Milk and Food Plant Equipment and Supplies*
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 36 CITIES

*Trendmaker in a great industry*

A TRIP with the EDITOR to

# CLEVELAND'S Telling - Belle - Vernon Dairy Company

THIS MONTH we're going to Ohio. I don't know how you folks react to that name but for me it has always held a certain magic. I think of George Rogers Clark and his rugged Continentals wading through the drowned lands along the Wabash on their way to Detroit and an empire. There was Johnny Appleseed with his outlandish clothes and his strange ways bringing apple pie and God to the wilderness along the Muskingum. The endless tide flowed over the tangled barrier of the Appalachians and fanned out over the broad fertile lands on the banks of the great river. There was steel and rubber, cattle and grain, and the vibrant energy that transformed a frontier into a land of milk and honey.

Cleveland and Ohio are as inseparable as pork and beans or bread and butter. You don't think of one without thinking of the other. Part of the fabric that makes Cleveland one of the first cities of the nation is the Telling-Belle-Vernon Company, a subsidiary of the National Dairy Products Corporation. The Company does a tremendous business. In 1947, for example, they brought 130,000,000 pounds of milk. It was the entire output of 1,900 producers located in the northern part of the state.

Milk is received, cooled and inspected at the company's various depots throughout the milkshed and is transported in insulated tank trucks to the plants for processing into bottled milk, ice cream and other dairy products. It is then delivered by a fleet of trucks to home delivery, retail store, institutional and industrial customers.

### Products Distributed Widely

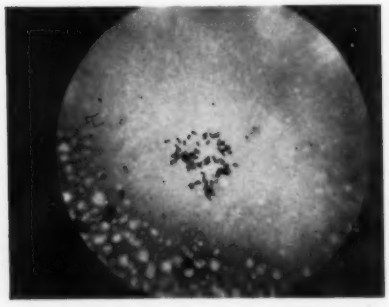
Bottled milk and dairy products are delivered throughout Greater Cleveland and as far east as Ashtabula and Painesville, as far west as Lorain county and in parts of Medina, Portage, Summit and Geauga counties. Ice cream is distributed over a much larger area covering about two-thirds of Ohio including Cleveland, Akron, Columbus, Zanesville, Dayton, Lorain and Mansfield, in most of West Virginia including Wheeling, Huntington, Charleston and Fairmont and in Eastern Kentucky.

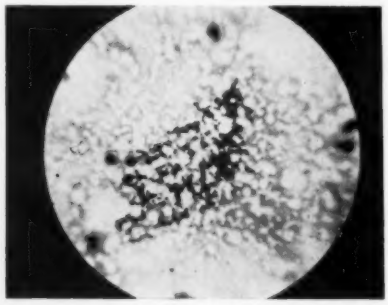
Milk bottling plants are located at Cleveland, Ashtabula and Painesville, Ohio; ice cream manufacturing and distributing plants at Cleveland, Akron and Columbus, Ohio, and Wheeling, West Virginia; and ice cream distributing plants at Ashtabula, Zanesville, Dayton, Lorain and Mansfield, Ohio; Charleston, Fairmont and Huntington, West Virginia, and Paintsville, Kentucky.

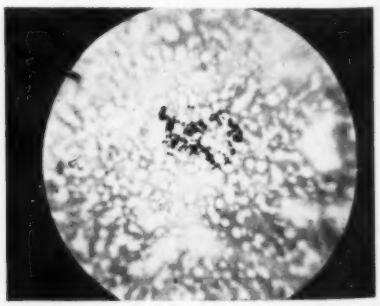
Still another of the many activities is conducted through an associated company, the Windsor Dairy Products Company, with plants at Carrollton, Ohio, and Peru, Indiana. These plants manufacture Formulac, a new baby food which was awarded the seal of acceptance of the American Medical Association. Formulac is a development of the research of National Dairy Products Corporation.

### Many Different Angles

One of the facinating things about these editorial excursions is the various angles that develop. In North Carolina it was the grass. At Michaels Dairy up in Connecticut it was superb sanitation. At Bowman's in Chicago it was exquisite housekeeping. In Cleveland the outstanding feature of the Telling-Belle-Vernon operation was the raw milk quality control program. Draw up a chair and look it over.







**Micro photographs of Breed smear samples magnified a hundred times. Photo at left shows type of bacteria resulting from poor cooling. Center photo shows several different types of bacteria indicating that the producer has many sources of trouble and his entire operation should be checked. Photo at shows a clump of bacteria of the type frequently found in the seams of milk cans and dirty utensils.**

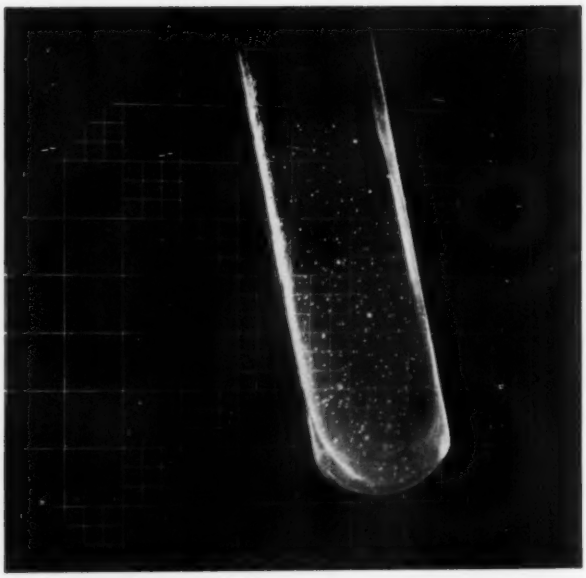
## Why we advertise regularly in the American Milk Review

"Years of experience and extensive manufacturing facilities give Thatcher Glass the capacity to serve the entire dairy industry. It is natural, therefore, that the AMERICAN MILK REVIEW would be chosen to reach as many as possible of the more than 15,000 alert milk plant operators. Each month our advertising messages on the sales advantages and production economies of returnable glass milk bottles are directed through the pages of the AMERICAN MILK REVIEW to this industry-wide audience."

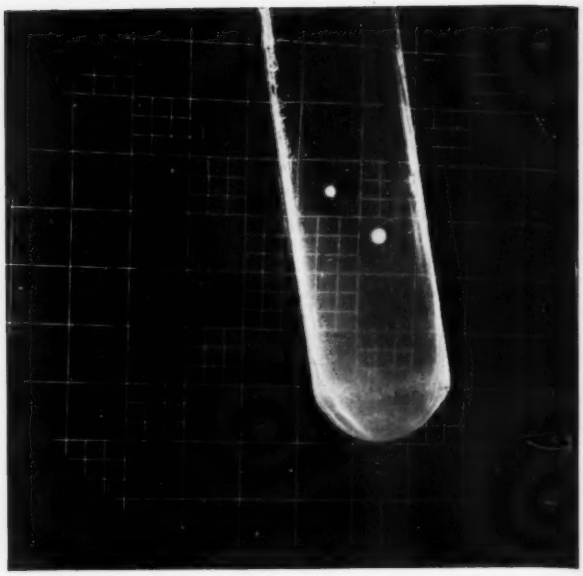
**W. W. SPRINGFIELD**
**Sales Manager, Milk Bottle Division**
**THATCHER GLASS MANUFACTURING COMPANY, INC.**

"The world's oldest and largest manufacturer of glass milk bottles, the Thatcher Glass Manufacturing Company, Inc., has advertised for years in AMERICAN MILK REVIEW. We rate the publication highly and are represented in every issue."

**AMERICAN MILK REVIEW . . . THE INDUSTRY-WIDE NEWS MAGAZINE OF OVER 15,000 MILK PLANT OPERATORS**



Pasteurized sample in agar tube. Here are shown many colonies and several different types of bacteria. This kind of milk will not keep.



Agar tube holding pasteurized sample shows only two colonies of bacteria indicating a count of 200. Counts of 100 or 200 are good milk.

As we have already mentioned, in 1947 the Telling-Belle-Vernon Company bought 65,000 tons of milk. That milk came from 1,900 dairy farms in 31 counties in Ohio.

To help obtain a high quality product from the producers the company inaugurated a new raw milk quality control program. This program is designed to help farmers produce milk of low bacterial count and to aid them in improving the general quality of their product.

The keynote of the program is sanitation. Sanitation is described as being nothing more than a race between man and the lower forms of life to determine who will get the food supply. Adequate sanitation handicaps the lower forms of life and helps man to win the race.

With the increasing rigidity of standards for milk and dairy products, it becomes more important to the dealer to maintain a low bacteria count in his raw product.

As an example of the increasing rigidity of the standards, the city of Cleveland long ago set up a count of 50,000 colonies per c.c. of pasteurized milk as the maximum allowable bacteria count. At the time this standard was established, a standard nutrient agar was used in making the bacteria count. Recently, a new material, Tryptone Glucose Extract Skim Milk Agar, was selected as the material to use. With this material a higher bacterial count will be obtained, and, as the standard remained unchanged, this, in effect, made the standard more difficult to reach. But, in the long run, producers and processors realize these quality requirements are a good thing. Customers cannot be forced to buy; they must want to buy. That demand can come only through offering them a top grade product.

### Testing Has Double Function

Testing milk as it comes to the dairy has a double function. First, it must determine the kind of finished product that can be turned out from the milk supplied by each producer. Second, the test must supply information to fieldmen of the dairy if they are to help the producer improve his product.

This necessity has been recognized in the Telling-Belle-Vernon Company, and tests have been adopted to determine this information. The first of these tests is a bacterial count on a sample of the producer's milk which has been pasteurized in the laboratory. The samples are taken twice a month. Sterilized equipment is used, and the samples are kept packed in ice until they reach the laboratory.

When the samples arrive, a sterilized loop is used to place .01 ml. of raw milk in a test tube with some Tryptone Glucose Extract Agar. The tube is then rotated to mix the milk and the agar. There follows a period of 30 minutes when the tube is placed in water of 143 degrees F. The tubes are then removed and the agar is allowed to solidify.

A 48 hour waiting period is required while the samples are incubated at 95 degrees F. The sample is then removed and a bacterial count made.

The second of the quality control tests is a Breed smear examination of each producer's milk. This examination is also made twice a month. A sample is taken and spread over a square centimeter area of a glass slide. The smear is then dried, stained so the clumps of bacteria will show up under the microscope, and examined.

Dear Producers:

The PASTEURIZED count of your milk for the month of May, 1947, was as follows:

FIRST HALF 100 SECOND HALF 100

Milkstone, waterstone, open seams, and improperly cleaned milking machines are the principle sources of bacteria which are not killed by pasteurization, thus making pasteurized counts over 100.

DO NOT FORGET THE EXTRA HAZARDS OF WARM WEATHER

The report of your milk as analyzed under the microscope before pasteurization for the month of May, 1947, was as follows:

| RELATIVE RAW COUNT | | | | | |
|---|---|---|---|---|---|
| LOW | | ACCEPTABLE | | UNSATISFACTORY | |
| 1st Half | 2nd Half | 1st Half | 2nd Half | 1st Half | 2nd Half |
| ✓ | ✓ | | | | |

Poor cooling, foreign material which does not belong in the milk, unclean utensils, or improper methods are the principle causes of high raw counts.

This is the report form sent to each producer monthly. Over 80 per cent of the producers have a pasteurized count of 200 or less; a high percentage show a low relative raw count.

On the basis of this examination the milk is divided into three classes. That with less than 50,000 bacteria is classified as low. Between 50,000 and 300,000 is classified as acceptable and over 300,000 as unsatisfactory.

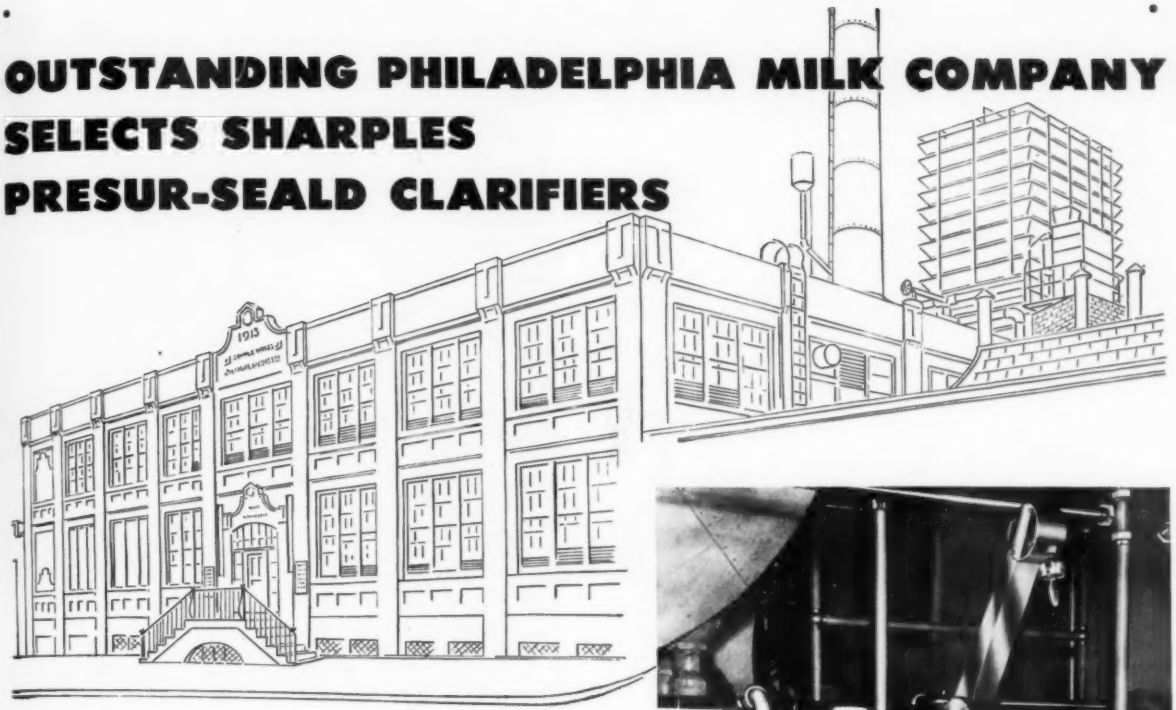
When the count goes over 300,000 the types of organisms present are noted for they indicate the source of the trouble. It may be poor cooling, unclean utensils or generally poor production methods. Sometimes mastitis is found, and this too is reported.

The information is passed on to the fieldman who then visit the producer and help him remedy the trouble.

The quality control program has been in operation in its present form since

*(Please turn to Page 55)*

# OUTSTANDING PHILADELPHIA MILK COMPANY SELECTS SHARPLES PRESUR-SEALD CLARIFIERS

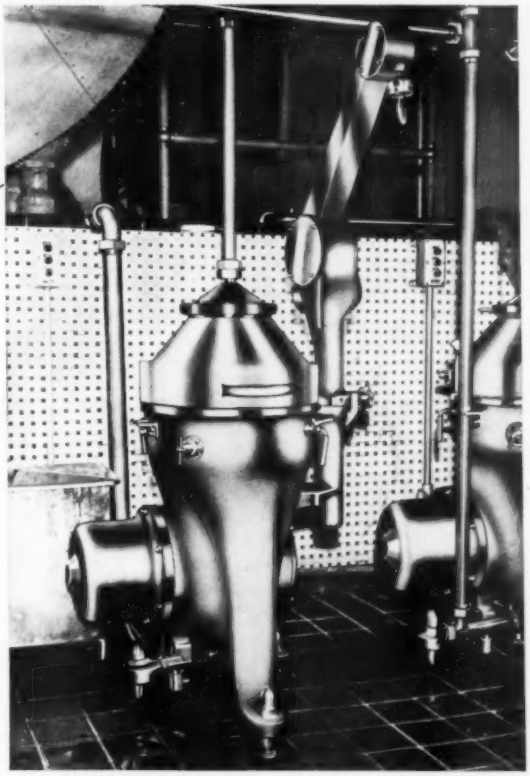


Famous for the uniformly high quality of its Sealtest Dairy Products, Supplee-Wills-Jones Milk Co., of Philadelphia, early this year converted from a holding to a short time pasteurizing system at its main plant. When the conversion was made Supplee's installed two Sharples Presur-Seald Milk Clarifiers.

In the country's foremost dairy plants, Sharples Presur-Seald Clarifiers and Separators are proving their value day-in and day-out under normal and abnormal conditions. Operators, too, can be sure that their Sharples Presur-Seald Clarifiers will have the latest improvements which engineering skill can produce. For many years, Sharples research has led in the development of features for centrifuges which have become standard for the industry.

## Sharples' Features Which Mean Improved Operation . . . Lower Maintenance Costs

- Completely Corrosion Resistant Construction
- Non-Slip Motor Drive Employs Oversize Gears
- Fully Enclosed, Easily Removable Motor
- Sturdy One-Piece Frame
- Exterior Bowl Balancing for Permanence and Sanitation



The above illustration shows two Sharples Presur-Seald Milk Clarifiers recently installed in the Supplee-Wills-Jones main Philadelphia plant.

**SHARPLES PRESUR-SEALD CLARIFIERS AND SEPARATORS —THE CHOICE OF LEADERS IN THE DAIRY INDUSTRY**

SHARPLES *The Sharples Corporation*

**DAIRY EQUIPMENT DIVISION**

New York 17, N. Y. 501 Fifth Avenue | Chicago 4, Ill. 80 Jackson Boulevard | Boston 10, Mass. 230 Congress Street | San Francisco 5, Cal. 686 Howard Street | Cleveland 15, Ohio 453 Hippodrome Annex Bldg.

**EXECUTIVE OFFICES AND FACTORY, 2300 WESTMORELAND ST., PHILADELPHIA 40, PA.**

*Milk*

This is a real "airplane" route. Fresh milk is unloaded at Berlin's famed Templehof airport during the height of the airlift.

# FLYS THE BERLIN AIRLIFT

*By* **HUGH ROBINSON**

FOR THREE HUNDRED and twenty days over two and one half million people depended on a thin thread of air supply for their daily milk. Nothing like it had ever happened before. That it succeeded is a tribute to the men of the U. S. Air Force, U. S. Navy and the Royal Air Force who made the Berlin Airlift possible.

May 12, 1949 signaled the end of the Russian blockade on the western sectors of Berlin. There was much flag waving, speech making, and ceremony. The occasion demanded it. The airlift began June 26, 1948 when the communists, closed all normal means of transporting foodstuffs, and fuel to Allied sectors of the German capitol.

In the face of this blockade the western powers took to the air. Milk, meat, machinery, coal, and just about every commodity necessary to sustain life was flown in by plane. This gigantic operation called for precise, accurate planning. The Americans flew in coal, flour, and packed foodstuffs. The British took over the job of supplying fresh milk and what fresh vegetables they could obtain.

The Americans used two jump-off points in sending out their planes. The bulk of the foodstuffs was assembled at Wiesbaden while flour, and coal was sent from Rhein-Main. The major source of supply for milk was the Schleswig-Holstein area, a part of the British sector of Germany. Schleswig-Holstein is world famous as a dairying center and occupies the strip of land that separates the Baltic and North Seas, and joins Denmark with the mainland of Europe. Producers in this area sent their milk to Lubeck, where it was pasteurized and bottled for immediate shipment. RAF planes, packed with ice in warm weather, flew the fresh milk directly from Lubeck to needy Berlin. It was impossible to supply ample amounts of milk for everyone and as a consequence fresh milk went to the babies, to the old, and to the sick. Canned, dried, and evaporated milk, purchased by the government in this country was flown in by our Air Force from Wiesbaden. This served to supplement the rather limited supply of whole milk sent in by the English.

Of the more than million tons of supplies handled by men of the airlift, most welcome by Berliners was that daily trickle of fresh milk. It was this day by day unbroken supply of milk that prompted German youngsters to point skyward and shout "luftbrucke, luftbrucke" (air bridge) in admiration of the airmen who engineered it.

Airlift pilots found little glamour in the daily routine of two round trips to Berlin. "It was a sixteen hour day," said Captain G. B. Bahler of Milwaukee, Wisconsin, one of the pilots interviewed by the *American Milk Review*. Although he flew coal Captain Bahler was a dairyman. Before entering the Air Force he did extensive research on the vitamin content of milk under Dr. W. H. Petersen at the University of Wisconsin. Another pilot, Captain J. W. Baker, Haldenville, Oklahoma, when questioned regarding "practice" Russian anti-aircraft

*(Please turn to Page 47)*

# PROFITS START WITH PRODUCTION *Economies*

• In this highly competitive era, profitable operation is largely a matter of production economy. You can't do much about high raw material and labor costs, but you CAN control the cost of equipment performance. In the new Buflovak Multiple Effect Evaporators, production economies first take shape on the drawing board where practical knowledge of and sound engineering principles play their important part. But of greater importance to you is Buflovaks' incomparable record of production economy in actual plant operation.

In dry milk, too, Buflovak Milk Dryers assure a broader profit margin through the production of blue ribbon quality at lowest possible cost.

*Write for Bulletins Nos. 343 and 344.*

*Buflovak*

**AFFORDS**

- **LARGE EVAPORATIVE CAPACITY** from smaller heating surfaces.
- **PRODUCT QUALITY** . . . rapid concentration with short exposure to heating surface produces a concentrated milk of excellent flavor, uniform texture and exceptional smoothness.
- **99.9+% SOLIDS RECOVERY** . . . no boiling over losses. A unique method of tangentially admitting vapor and milk into separator prevents entrainment.
- **67% SAVING IN STEAM** . . . **80% IN COOLING WATER** in comparison to single effect operation. High fuel costs make these savings vitally important.

*MULTIPLE EFFECT*

# *Buflovak* EVAPORATORS

## BUFLOVAK EQUIPMENT DIVISION

**OF BLAW-KNOX COMPANY**

**1627 Fillmore Ave. — Buffalo 11, N. Y.**

295 Madison Ave. — New York 17
1636 Monadnock Bldg. — Chicago 4
2217 Olive St. — St. Louis 3
1706 Broadway — Oakland 12, Calif.
441 First National Bank Bldg. — Houston 2, Texas

# PASSWORD FOR JUNE IS "SELL"

**Long Months of Spade Work Are Bearing Fruit as Thirteenth Campaign Gets Underway — Need for Year 'Round Selling Is Emphasized**

THE BANNERS ARE GOING up in Seattle. The legislators on Boston's Beacon Hill are flexing their fingers in preparation for the annual milking contest on "the Common". The ballot boxes have been dusted off in Texas as the time for selecting a Dairy Queen approaches. In ten thousand communities, big and little, the talk is dairy talk, June, the dairy month, is in the wings.

Somebody figured out not long ago that there are just not enough weeks in the year to accommodate all of the special weeks that have been set aside to be devoted to a particular idea. There is "Be Kind to Dumb Animals Week" and "Be Kind to Little Children Week." There is "Fire Prevention Week" and "Accident Prevention Week." There is "Apple Week" and "Better Babies Week." In fact it is getting so that it is almost better to have something to which no week is devoted than to compete for the weeks already spoken for. Up in Vermont, a Yankee inn-keeper on the famous Molly Stark Trail hung up a sign which declared "This is the only place on the Molly Stark trail where Ethen Allen did *not* stop on his way to Fort Ticonderoga."

### No "Weeks" For Us

The dairy industry, as befits the largest industry in the world, has discarded the idea of a week celebration and has set aside an entire month for the greater glory of milk, cheese, butter, and ice cream. This is no seven day proposition. This is thirty days of solid promotion that utilizes every means of communication available and touches every city and town in forty-eight states. This is big time stuff.

June Dairy Month is sponsored by the dairy industry through representative national dairy associations. Headquarters are at the National Dairy Council in Chicago where Milton Hult, NDC president, heads up the National Program Committee. Branching out from the national headquarters are the state chairman each with a corp of men and women, sometimes there are as many as a hundred, working throughout the state to put the grand plan into operation. Organization is the touchstone to success in any undertaking of this nature. June Dairy Month has got an organization.

Keynote of this year's June promotion is "Dairy foods, Always your best buy". In a year when selling is once more emerging from its wartime hibernation the slogan is a happy choice.

The scope of the campaign justifies the Hollywoodian description of colossal. According to the National Publicity Committee more than a thousand radio stations will carry June Dairy Month programs. A vast unknown number of newspapers will tell the story in words and pictures from Maine to California. Food stores, drug stores, department stores, and dairies from coast to coast will make use of the promotion material prepared for the event. Requests for material are running about 20 per cent greater than last year and up to the middle of May more than a half million pieces of promotional matter had been ordered.

One of the most popular features of the month has been the election of Dairy Queens. Local organizations usually select their Queen who then competes with other Queens for honor of occupying the state throne. No national Queen is chosen. Last year 263 U. S. Junior Chamber of Commerce organizations took part in the Queen contests. A real high class collection of loveliness was assembled, a collection that found high favor with newspaper editors as front page material. It was a lot better than a poke in the eye with a sharp stick.

### Endorsement From the Secretary

The big names in the government have been recruited to lend their touch to the month's work. Whether the President will issue a proclamation is still unknown but the boys are working on the deal. Secretary Brannan has endorsed the undertaking along with Philip Nelson, Director of the Dairy Branch, Production and Marketing Administration. Most of the governors will issue proclamations all of which will add up to an impressive total.

In his letter to Milton Hult Secretary Brannan said,

"In again observing JUNE DAIRY MONTH, the American dairy industry is performing a service both to dairy farmers and to the consumers of dairy products.

"The Department of Agriculture is fully aware of the importance of the economic welfare of dairy producers and of the meaning of a good supply of dairy products to the health and well-being of consumers. These are fundamental facts that make the dairy industry's welfare of prime importance to the Nation."

### Expert Workmanship Involved

The material made available through the work of the National Committee is the work of experts. There are suggestions for radio programs complete with spot announcements and interviews. Newspaper stories with blank spaces for local dairymen to insert the names of their spokesman are included. A series of suggestions for activities that would form the basis of good newspaper copy are a part of the kit. Dairy day parades, window displays, healthiest baby contests, visits to modern dairy plants are some of the recommendations. Promotions tying in with June Dairy Month, are included in in the June issue of Meyer Both Feature Newspaper Service. If you wish to use this particular material in connection with the local paper it may be secured by contacting a newspaper that holds a Meyer Both newspaper franchise.

The International Association of Ice Cream Manufacturers and the American Dairy Association are both in the June program 83 pounds worth. The ice cream people have put out a kit of publicity and promotional material of their own which ought to stir up some dust in the hinterland. Biggest gun in the ice cream arsenal outside of ice cream itself, is the June 21st issue of Look magazine which will carry a feature story entitled "America's Serving Ice Cream and Fixings At Home". Backing up the Look battery will be stories in distributor's magazines. SUPER MARKET MERCHANDISING, FOUNTAIN SERVICE, RETAIL TOBACCONIST, and CHAIN STORE AGE are all planning to carry special features on ice cream. In addition to these stalwart supports National Biscuit Company, Sealright, General Mills and Libby are featuring advertisements in national magazines such as Colliers, Saturday Evening Post, Good HOUSEKEEPING and SEVENTEEN.

The American Dairy Association, Milk Industry Foundation, National Dairy Council and other trade organizations are the dynamos in the month's drive. Healthy feature of the approach characteristic of these organizations is the attitude that June is only a high point in a constant year 'round promotional effort.

"Selling and advertising of dairy products is a year 'round job," says Owen Richards of the American Dairy Association. "The most important thing about Dairy Month, in view of this year 'round need for selling, is that June is the time the dairy farmers of the nation take action in their ADA set-aside to provide needed year 'round advertising and merchandising action."

"This ADA action in June not only provides year 'round action, but specifically a sales action highlight for June Dairy Month itself. This June the ADA program happens to be highlighting Ice Cream. So let's see what ADA is doing in the way of getting out 'material'.

"The ADA ad in full color runs in Life, Woman's Home Companion and Seventeen magazines. The total circulation of these is 11,633,051 – much more for one ad than the total of all the Dairy Month material.

"The circulation story is only the beginning. Other advertisers will be advertising ice cream with their products in June this year—nationally. These others include General Mills, Pillsbury, Libby, Del Monte, National Biscuit Company, and others. General Mills advertising in magazines alone, featuring ice cream with cake, has the following schedule: June issues of Ladies' Home Journal, Woman's Home Companion, Better Homes and Gardens, Country Gentleman, Today's Woman, Family Circle, True Story, Woman's Day, Successful Farming, and Farm Journal, and the July issue of Household Magazine, with a total circulation of 28,325,686.

"In addition, by working months in advance, ADA was able to interest Super Market Merchandising, Chain Store Age, and other food trade publications in getting on the bandwagon in June for ice cream.

"Super Market Merchandising conducted special store tests in April, with ADA guidance, to get sales results for ice cream on a stepped-up merchandising basis. The April issue of this publication carried a 16-page insert preaching the proper merchandising methods for ice cream. The methods advocated were used during this month in a 19-store, New Jersey food chain. Sales results of this test will be the subject of a second Super Market Merchandising insert in its June issue.

"This is how ADA, working in the merchandising field, can do and is doing a year 'round job of increasing point of sale activity for greater sales of all the various products. This is why the one month action in June that gets year 'round action, to my way of thinking, at least, is the high spot of any June Dairy Month."

Many dairymen, justly concerned with costs and the business of putting out a good product, doubtless wonder if all of this activity amounts to anything. It is difficult to obtain accurate figures that give a clear picture of the impact of June Dairy Month on 148,000,000 people. Possibly one indication of its merit lies in the fact that this year marks the thirteenth time the promotion has been undertaken.

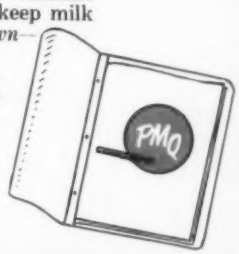
Fundamentally the idea of June Dairy Month is a first rate idea. But men in the industry should never forget that it is a team proposition. In order to capitalize on the promotion dairymen must translate the publicity, the talk, and the promotion into sales. It is the old, old story of putting the shoulder to the wheel. National promotion and advertising can carry the ball for awhile but it is the individual handler, working in his own market, who must furnish the power to put it over.

a hot weather plan

FOR BETTER MILK

When temperatures increase, so do bacteria! Keeping bacteria counts *down* becomes an even tougher job for your producers.

Help them—*and help yourself*—with the LO-BAX "PMQ" plan. It's a comprehensive promotion program including LO-BAX posters, milk house instruction cards, booklets on sanitation, letters and folders to accompany milk checks . . . all designed to encourage your producers to use an efficient chlorine rinse regularly . . . to keep milk quality *up*, bacteria counts *down*—IN SPITE OF HOT WEATHER!




Write today for full information about the hard-hitting, down-to-earth LO-BAX "PMQ" Program. Mathieson Chemical Corporation, 60 East 42nd Street, New York 17, N. Y.

LO-BAX! 50% AVAILABLE CHLORINE

A Highly Efficient Chlorine Bactericide

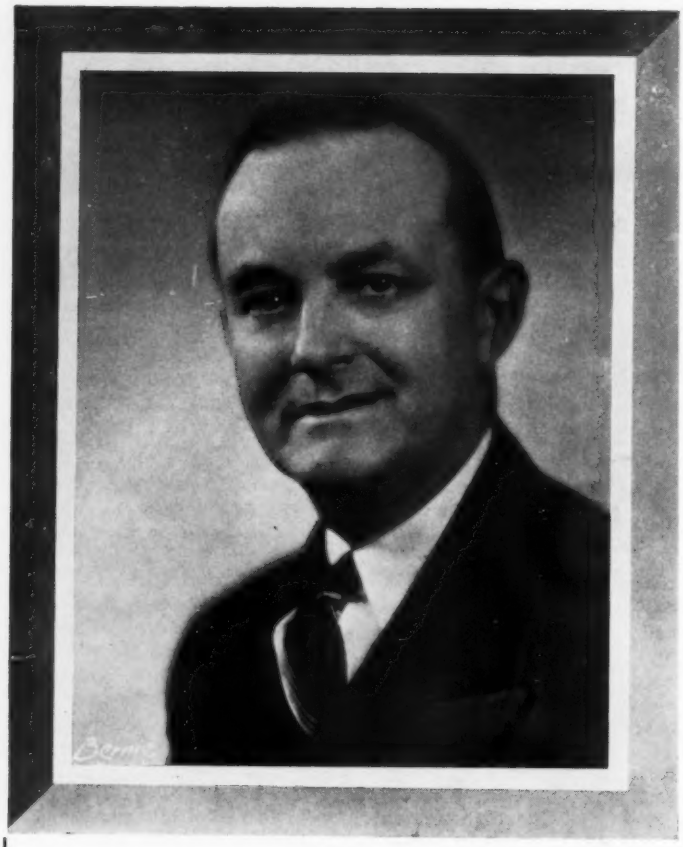
- A FAST KILLER
- EASY TO HANDLE AND USE
- STABLE (DOESN'T LOSE STRENGTH)
- GIVES CLEAR DAIRY RINSE SOLUTIONS
- READILY DISSOLVING
- HARMLESS TO COWS' UDDERS AND MILKERS' HANDS

REMEMBER— it takes a bactericide to KILL bacteria

PMQ PROTECT MILK QUALITY

Mathieson LO-BAX

Lo-Bax . . . Super Nufos . . HTH-15 . . . Dry Ice
Carbonic Gas . . . Ammonia, Anhydrous & Aqua
Caustic Soda . . . Soda Ash . . Bicarbonate of Soda . . . Liquid Chlorine . . Chlorine Dioxide
PH-Plus Sodium Chlorite Products
Sodium Methylate



OWEN RICHARDS

# Portrait of a Dairyman

CHANCES ARE, if you've ever attended a dairy meeting anywhere U. S. A., you've seen and heard Owen M. Richards. As manager of the American Dairy Association, the industry's advertising and merchandising "voice," Owen Richards, travels as far and speaks as often as anyone in the dairy industry.

What manner of man is he? What's his background?

He is a salesman. It took salesmanship to build ADA to more than 40 states today from the original 6 states in 1940.

He is a showman, too, but no bombast, no diversions.

Sincerity is the greatest element in salesmanship – and Owen Richards has it. He sells you on his purpose through the quiet, confident, knowing sincerity of dealing with a subject he has lived – the welfare of dairy farmers and the nation's dairy industry.

Owen is the original manager of ADA and the industry agrees that he is a great one. He received his baptism in dairying as director of merchandising in the first annual June Dairy Month campaign back in 1938.

Sincerity – plus ability and seriousness of purpose – came naturally to a man born on a Colorado ranch to pioneering parents of Welch descent. These qualities, plus a love of sports, also took him away from Colorado. First he was a kid infielder battling the best of Colorado's baseball semi-pros. Then, after high school, he was a cub sports writer on the Denver Post. His ability was "discovered" there by the late Dean Walter Williams, founder of the famed University of Missouri School of Journalism, who sent Owen off to his college with these words: "You don't have to have money. All you need is the will to go." After college came St. Louis and advertising with the Ralston Purina Company and a number of advertising agencies. All these added up to salesmanship – from Checkerboard Feeds to Coca-Cola – training for dairy days ahead.

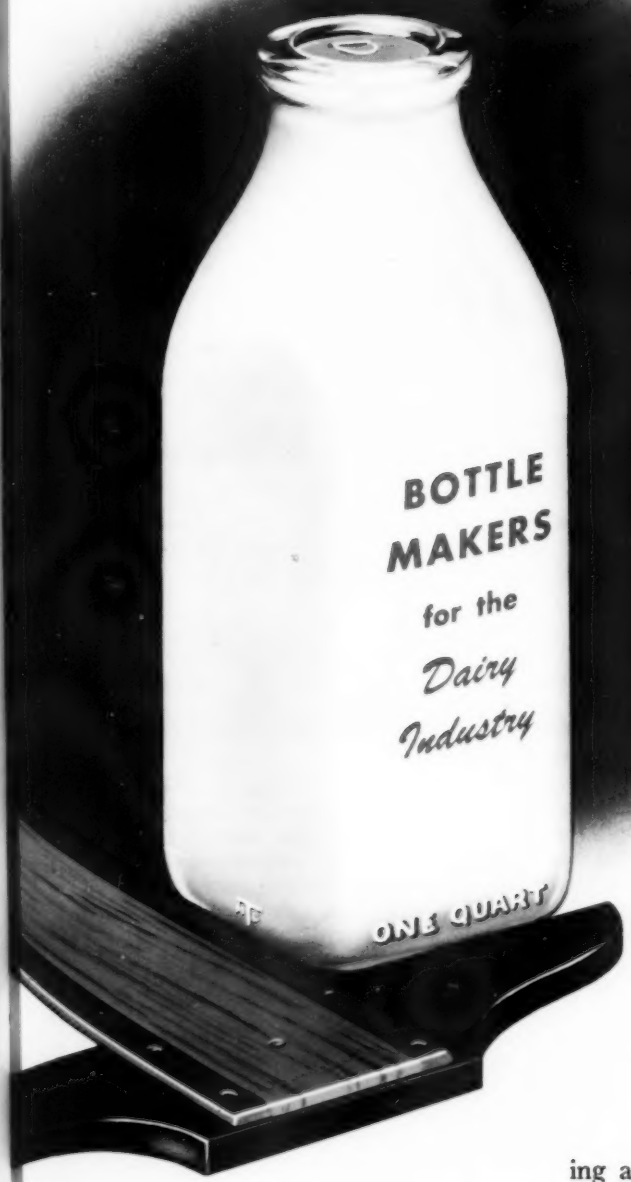
Owen Richards has three hobbies. His family – wife, two daughters, one son – and his perpetual cigars and perpetual work. That cigar tells you a lot about him. Confront him with a knotty problem and his cigar is subjected to a grinding from firm-clenched jaws. Show him a particularly sparkling piece of artwork – and the cigar dances merrily round 'n' round.

Oddly enough, Owen never lights a cigar. He doesn't need to. His flame is on the inside where it counts.

# WHICH?

## Increased Trippage

## or a Cheaper Bottle




Does the dairy industry need a lower-priced milk bottle or a milk bottle that will increase trippage and thereby reduce distribution costs?

As we see it, a cheaper bottle means only initial outlay, *but does not reduce the basic costs of fluid milk distribution.* The economic facts are simple: if the milk container costs 1c and makes one trip, the net cost for distribution is 1c; if the container costs 5c and makes 50 trips, the net cost is only 1/10 of 1c. This is a mighty important consideration for milk plant operators faced with rising costs of operation and consumer resistance to price increases.

Thatcher Glass has consistently produced high quality, extra-trippage glass milk bottles. Whatever style, shape, or finish you prefer, Thatcher-made milk bottles are better designed, more uniform, and last for extra round trips. Give your dairy the opportunity for new operating and distribution economies with Thatcher glass milk bottles. Your dairy equipment jobber will supply you, or order direct.

MAKERS O
THE ORIGI
MILK BOTT

**THATCHER GLASS MANUFACTURING COMPANY, INC. Elmira, N. Y.**

## CREAM GETS SALES PUSH

### ADA and General Mills Team Up on Maytime Promotion for Whipped Cream, Butter, and Biscuits

MAYTIME IS "whipped cream and strawberry shortcake" time! The nation will be blanketed with colorful advertising designed to make all America hungry for this delightful springtime dish.

Spearheading the campaign will be the full color page ad of the American Dairy Association in the May 23 issue of Life Magazine with its readership of 27½ million.

The ad sells cream — whipped cream topping on the shortcake. It also sells butter — between the biscuits. And the

ad suggests many other tempting ways to use whipped cream.

Linked with the ADA in this whipped cream campaign is the powerful advertising and merchandising force of General Mills.

#### Hey! Look! Shortcake

Featuring Bisquick mix to which cream is added for rich biscuit shortcake, the color ads of General Mills carry the same type of appetite-tempting illustration with luscious strawberry shortcake and whipped cream.

These ads appear in June issues distributed during May of This Week, American Weekly, Woman's Home Companion, Better Homes and Gardens, Parents', Good Housekeeping and True Story.

Airlanes, too, will bring the whipped cream-strawberry shortcake message to listening America over two coast-to-coast networks. The sales of cream will be stimulated as General Mills broadcasts the "Magazine of the Air" program on the NBC network and "Today's Children" program on the ABC network.

Outdoor advertising will flash the same "food delight" story to 96 million potential customers as American Dairy Association 'Xpress posters parade the nation for a 30-day showing which begins May 15.

Millions more sales impressions will be made by full color menu clipons in restaurants, hotels and public eating places. Full color bottle collars have been made available to the industry and they will deliver the sales message direct to the doorsteps of the homemakers across the land.

●

## A STITCH IN TIME

"Now is the time for top managements to prepare their companies for rough weather", members of the Refrigeration Equipment Manufacturers Association were told at their annual meeting at the Edgewater Beach Hotel, by James L. Allen, partner in Booz, Allen & Hamilton, management consultants, of Chicago.

The war and reconversion periods have been excellent breeding grounds for business weaknesses which may cause serious trouble in a decline, he said. Those most frequently found are unsound organization structures, lack of leadership, high production costs, inadequate sales programs, relaxed accounting controls, loose credit administration, scant attention to procurement, inventory accumulations and inadequate financing.

Mr. Allen suggested that companies interested in appraising the condition of their business calculate what a decline of 20% to 25% in general business would do to the following items for the past 12 months: Net sales, Cost of Goods sold (material, direct labor, manufacturing expense), gross profit, selling expense, administrative expense, operating profit, and net profit.

As a program of constructive action Mr. Allen recommended the following four steps:

1. Assemble all facts and data bearing on each weakness.
2. Classify and analyze these facts and data.
3. Formulate a corrective program, and
4. Put the program into effect.

## LAMENT OF THE MIXED UP MILKMAN
## *OR*
## IF YOU'RE GONNA HAVE A BABY, TAKE THE DAY OFF!

*By* DONALD E. MOORE

The birth of a first child can legitimately cause some excitement, but the birth of a second one ought to be taken in stride. On May 28th, 1945 my second child was born. It was quite a day. Let me tell you the story from the beginning.

I was a milkman. On the night of the 27th, my wife had to be rushed to the hospital. The stork was coming for the second time and excitement ran high. I spent the entire night pacing the hospital floor, the personification of an agitated father. Morning arrived and nothing had happened so I went out on my milk route, expecting at any time to be called back to the hospital.

About 10:00 A.M. the call came, but after an hour's wait, the doctor told me the big event would not take place for a while so I might as well finish my route. Off I went, waiting for another call. Around noon the baby arrived and I stayed around the hospital until both my wife and the child were Ok., then back I went for a second time to finish the route.

Was I excited? Of course not. I finished my route and returned to the plant. Twelve customers, all in the same three blocks, called to see where their milk was. One women wanted to know why she had been left a box of butter instead of cottage cheese. Another woman got two quarts of buttermilk instead of two homogenized. Still another woman got two dollars change for a five, but no milk tickets. I went back to the hospital, stayed for a few hours, then headed for home and some needed sleep. It just wasn't my day. Enroute home, a car ran through a stop sign and hit the rear wheel of my truck, causing some damage to both the car and the truck.

The end of this adventure in confusion came the next day when a woman called and wanted to know why I had picked up the bottles, note and money from her front porch, and had left her milk, change and a note saying "no eggs today" at her next door neighbor's. Excited? Don't be silly

P.S. — It was another girl!

# Try this easy way to make a more salable chocolate-flavored dairy drink!

**Economical new powder contains a carrageenin-based stabilizer**

**IT WILL NOT "SETTLE OUT"**

● ***ECONOMICAL*** . . . the price is amazingly low. Convenience and ease in handling save time and money in manufacturing. Always uniform, Kraft Stabilized Chocolate-Flavored Powder never fails, when properly used, to produce a delightful, fast-selling chocolate drink.

● ***FINER FLAVOR*** . . . a deep-down delicious "chocolaty" taste that you'll find ideal as a base for your formula. Kraft Stabilized Chocolate-Flavored Powder is a superb blend of top-grade, finely-ground cocoa and sucrose . . . brought to flavor perfection by a dash of salt and vanillin.

● ***LASTING SUSPENSION*** . . . This finer Kraft product contains a carrageenin-based stabilizer. *It will not "settle out"!* Color distribution is even, uniform. There are no color layers or "marbling" to destroy eye appeal.

● ***LOW VISCOSITY*** . . . drinks made with Kraft Powder have nearly the same viscosity as fluid milk! They pour out smoothly, leave on the tongue no filmy, sweetish after-taste to destroy the appetite for "seconds."

● ***EASY TO USE*** . . . no mess, no bother. No sticky syrup to scrape from the sides of a jug or tin. You can get the last spoonful of powder from its container. Quickly and easily soluble.

Find out more about this amazing product. Call or write the Kraft branch in your area today. Once you try it, you'll agree that Kraft Stabilized Chocolate-Flavored Powder makes a better dairy drink . . . easier. Kraft Foods Company, Department AM-10, 500 Peshtigo Court, Chicago 90, Illinois. Branches in all principal cities.

**KRAFT**

**STABILIZED CHOCOLATE-FLAVORED**

**POWDER**

**for making chocolate-flavored milk drinks**

# Amazing!

IT'S HARD TO BELIEVE the results dairies are getting with the Dacro P-38 Cap... until you actually see them yourself. This modern capping system is made for high-speed operation. But it does more than speed up your bottling. There's an apparent touch of magic in the way it speeds up operations all along the line.

Time savings start at the capper. With Dacro P-38's single capping, pre-formed caps and simple capping mechanism, capping is fast and continuous. There are few stops and practically no delays. Cap users report time savings of an hour and more in making their daily run.

With faster operation on the bottling line, attendant operations go faster, too. Time is saved in pasteurizing, bottle washing, cold room, loading, etc. And all these savings in time help to cut down your operating costs.

Performance studies in dairy after dairy show really amazing savings in time and operating costs with Dacro P-38. Let a Dacro Sales Representative show you some of these reports. They will give you an entirely new idea of the savings the Dacro P-38 Cap might effect in your own operation.

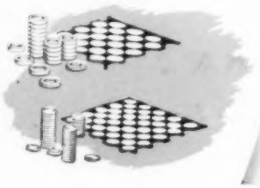
***STEEL** for the home delivery trade — **ALUMINUM** for store and school trade*

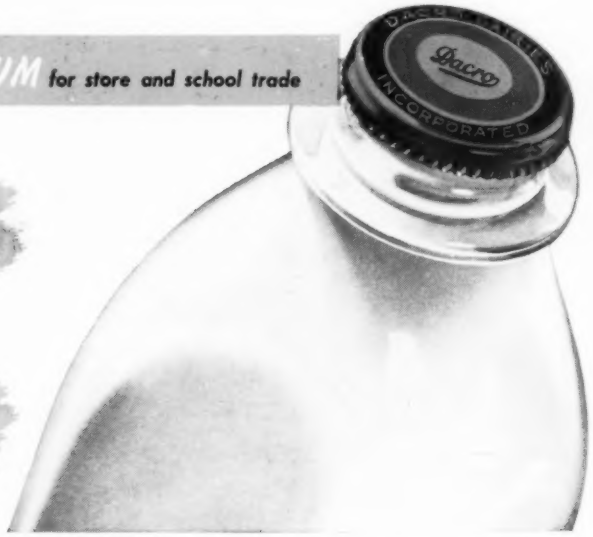
## *Makes a hit with housewives*

Consumer acceptance of Dacro P-38 ... both Steel and Aluminum ... is a well established fact. Housewives like Dacro's protection and its convenience in daily use.

## *Saves on cap cost, too!*

Because of its smaller size, the Dacro P-38 Cap takes less material to make and sells at a lower price. It saves money on caps every day you operate.





# -the amount of time and money you save with Dacro P-38

**CROWN CORK & SEAL COMPANY**
*Baltimore 3, Md.*

*Dacro Division*

SOLVAY

Trade Marks SOLVAY and ⚓ Registered U.S. Pat. Off.

ANCHOR ALKALI

A SOLVAY Special CLEANSER

# Gets Bottles *Thoroughly Clean*

There are no two ways about it—a bottle is either clean or it isn't! When you wash your bottles with SOLVAY ANCHOR ALKALI you *know* they are clean and sterile. The "action" ingredients of this *special* cleanser get to work promptly . . . make bottles shining and sanitary. SOLVAY ANCHOR ALKALI is economical, too—consumption per unit number of bottles washed is mighty low. Order SOLVAY ANCHOR ALKALI *now* for prompt delivery.

**SOLVAY SALES DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
**40 Rector Street, New York 6, N. Y.**

*BRANCH SALES OFFICES:*

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse

# *Wisconsin Tackles That* OLE DEBBIL STREAM POLLUTION

*By* JOHN E. HUBEL

IN WISCONSIN, when the annoying subject of pollution of the state's streams and small lakes is brought up, most of the blame for such conditions is usually saddled on the dozens of paper mills in the central part of the state. It is a fact that the sulphite liquor discharged from the paper mills into the streams and small lakes makes the waters practically unfit for quenching cows' thirsts in the areas where the giant paper mills are located. It has recently been found, however, that the real offenders are the 2,400 or more dairy plants of the state. The water in streams and small lakes is made unfit not only for consumption by cows, but the discharge of milk sugar also spoils the water for swimming, laundering, etc. Fish and other water life cannot exist in such waters, as the discharge from dairy plants as well as from the paper mills takes away most of the oxygen from the water.

The farmers of Wisconsin have long ago given up the idea of permitting the cows to drink the water in polluted streams and small lakes of the state. Cattle back away from the smelly water, and soon learn that the water from the well on the farm is the best source of supply.

### Good Disposal Plants Needed

Dairy company managers interviewed agree that a good disposal plant would really work wonders in getting rid of the discharge of milk sugar for which no use has been found by chemists. Few dairies have been found that could afford a disposal plant of their own, but they would welcome being permitted to discharge into a disposal plant paid for by the public. There are a few Wisconsin dairies that have such plants, but the total number so equipped is very small. Far greater advance has been made by the paper mills in finding ways and means to dispose of the sulphite liquor. One large mill claims to have found a way of disposing of about 50 percent of the liquor. Others have in mind methods that may reduce the nuisance up to 70 percent. One firm is said to have discovered that yeast can be made from the sulphite liquor. A plant for this purpose is said to be in successful operation. Enough of the pollution from paper mills is still left, however, so that it gets into the streams and small lakes of the state and makes the water unfit for any use. At times the water is actually coffee colored.

One co-op dairy located in central Wisconsin on the Fox River has been ordered to discontinue the pollution. It expects the municipal sewage plant of the area to take care of the disposal of the discharged milk sugar. That would cost the municipality, it is estimated, about $150,000. In other areas dairies have appealed to municipalities to help get rid of the polluting discharge from the plants. Cities have usually turned down any attempt requiring them to handle the discharged fluids. State officials have held that most municipal sewage plants have already been taxed to the utmost as it is.

### State Clean-up Campaign

During a clean-up campaign started recently, dairies, breweries, paper mills, soap plants and others have been warned that the state will have to get tough if the river pollution continues. In the case of the dairies and cheese plants of the state, the discharge of the milk sugar into streams is so great that it is a pronounced pollution factor. It has been found that the waste sugars and milk compounds take too much of the oxygen out of the water in rivers and lakes. It is the milk waste from such plants that is the greatest problem. Some of the plants handle as much as half a million pounds of milk a day. This is the result of the fact that a number of small plants have been discontinued and consolidated into a few large plants. Also, in recent years the inspection requirements of the state department of agriculture have become so strict that more and more water is used to keep the dairy plants clean. The discharge from the plants is much greater than what it was in years gone by. In the old days the waste product from from dairies and cheese factories was simply discharged out of the building, around small plants, and left to rot. The resulting smells gave competition to the limburger cheese that was made in the plant. Today, with the strict inspection by the state, the plant is compelled to discharge the unusable product in a manner that will not result in a nuisance or danger to health in the immediate vicinity of the plant. Logically the nearby river was thought to be the best outlet for the undesirable part of the by-product.

### Experimental Work Undertaken

Several of the larger dairies of the state are conducting experiments in an effort to find ways and means of disposing of the waste materials without permitting them to get into the streams. But thus far, apparently, this is all still in the experimental stage. The Borden Company has been carrying on experiments with dry wells as filters, each costing about $6,000, but, as freezing weather is Wisconsin's lot for many months of the year, the results have been only fairly satisfactory, according to reports. Arthur Erickson, an engineer on that job, advised that the answer to the problem had not been found as yet. "State help in the experimental work is needed", he said, "as the smaller plants cannot afford to build several systems, in an effort to find out which kind would work best for the particular plant."

When interviewed by a Milwaukee Journal reporter recently, an official of the Wisconsin Cheese Makers' Association, George Mooney, had this to say on the subject: "We have been aware of the pollution situation for a period of years. The entire dairy industry, the University of Wisconsin and others with research staffs have been and still are attempting to devise a practical method of waste disposal. We make a point that the Wisconsin cheesemakers and most of the others in the processing phase of the dairy industry cannot afford investing in experiments. Dairies cannot afford to erect a costly plant and shortly afterward find it is not the solution to the problem.

"The economic importance of the dairy industry suggests that it should have balanced consideration as against those interested in fishing. Every dairyman recognizes recreation as important and everyone likes to hunt, but first you have to earn the rod and reel. We have advanced to the point where the whey — once a waste — has commercial value. The next step is scientific disposal of the

*(Please turn to Page 45)*



XUM

An overall view of a tank shop. Note the triple roller at the lower right which is used to fashion strip steel into cylindrical forms. Lower left center shows sheets of stainless steel welded together into a strip.

# HOW HOLDING

*By* **NORMAN MYRICK**

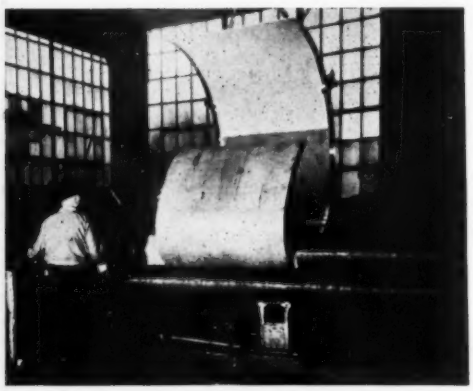
HOLDING TANKS are masculine. In spite of their rugged construction there is something dainty, something almost feminine about separators. Bottle washers and fillers have a sort of housewifely efficiency but holding tanks, as massive and solemn as a holstein bull, are masculine from the ground up.

A holding tank's function is passive. Its job is not to change but to maintain. The best holding tank used to be the one that discharged milk in the same state as that in which it was received. Today, however, the trend is toward tanks that have cooling systems incorporated in their construction and actually reduce the temperature of the milk after it gets into the tank.

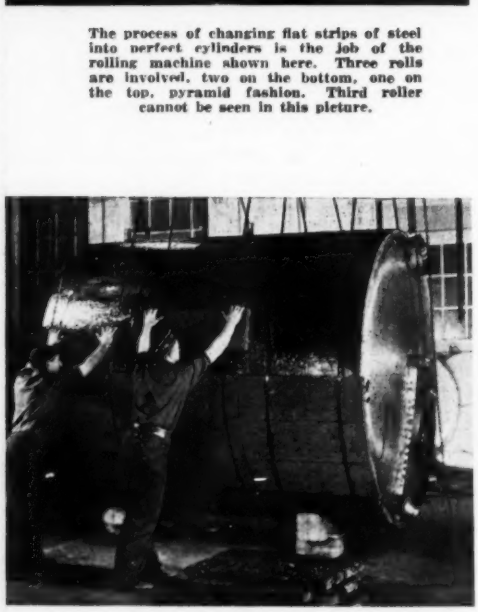
Holding tanks are deceptively simple in appearance. Their job is simple, too, just a matter of holding a few thousand pounds of milk. Simple like a bank vault is simple or reaching the North Pole is simple. All a bank vault does is provide a safe place in which to keep your money if you've got any. All reaching the North Pole involves is a matter of getting there. What it boils down to is that the idea of a storage tank is simple just as the idea of a bank vault or a polar expedition is simple. The difficulty lies in the execution of the idea.

### Innerlining Is Stainless

The part of a holding tank that comes in contact with milk is the inner lining. This lining is usually made of stainless steel although there are some glass lined tanks on the market. Stainless steel comes in standard sheets and standard thicknesses. Thickness is specified by gauge. The higher the gauge number the thinner the steel. For example, 14 gauge stainless steel is .078125 inch thick while 12 gauge is .1094 inch thick. Most holding tanks in the dairy industry use pumps to force milk in and out and pressure is not too much of a problem. Some early tanks were collapsed by vacuum when milk was drawn off with



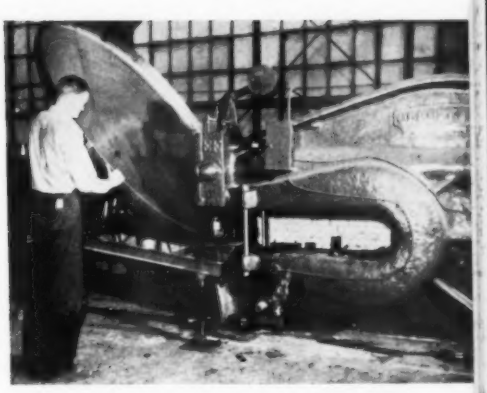
The process of changing flat strips of steel into perfect cylinders is the job of the rolling machine shown here. Three rolls are involved, two on the bottom, one on the top, pyramid fashion. Third roller cannot be seen in this picture.



Tanks consist of an inner and outer tank or a lining and jacket. The inner tank, made of stainless steel is covered with cork insulation. Insulation is then covered with outer tank or jacket. Asphalt is used as an adhesive.

Heads for the holding tanks have sharply curved rims for strength and sanitary reasons. Operator in this picture is putting high finish on stainless steel head for inner tank. The head rotates against the emery pad which is moved across the face of the head.

# TANKS ARE MADE



Head for inner tank may or may not be dished. When dished heads are used convex character is imparted by either "bumping" or "spinning". Bumping operation hop-toad-like machine shown in this photograph. Bumping starts in center and works toward edges.

vents closed. Occasionally these early tanks were bulged out or damaged by too much internal pressure when unloading with air pressure. Modern tanks are provided with breathers to prevent such accidents. Unless deliberately mistreated there is no reason for a modern tank to collapse.

Stainless steel sheets come in various sizes none of which are large enough to make a complete lining. The first step in making the holding tank is to weld these sheets together, then grind and polish the welds. Both welding and polishing are extremely important operations, more than a little on the tricky side.

**Smoothweld a Must**

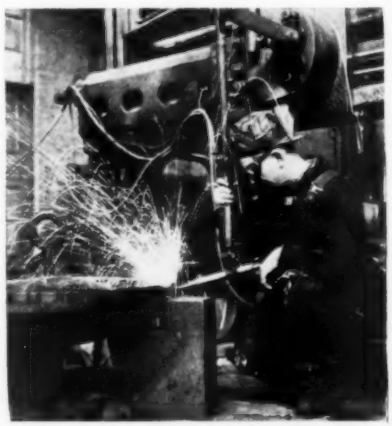
A heliarc weld is used on stainless steel. The edges of the virgin sheets are actually melted so that they fuse together. No flux is used. This type of weld gives practically a one hundred per cent penetration and results in a fine smooth bead. Only men with a rich experience in welding and polishing stainless steel can be trusted with this job.

The sheets of stainless steel are welded flat. The sheets are laid out lengthwise and welded together so that there will be no circumferential welds. Automatic welders are used in this process. These welders consist of trough like arrangements in which the welding rod is a continuous coil. The purpose of the trough is to protect the steel from weld splatter.

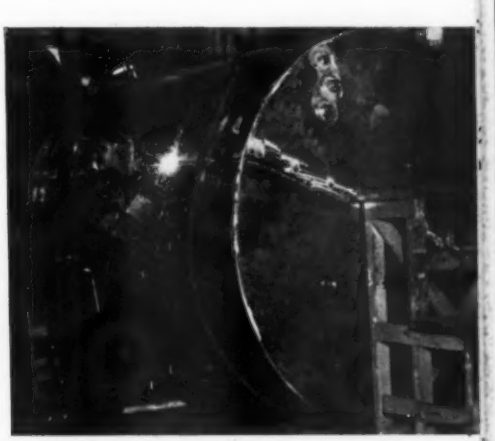
A smooth bead is a must in holding tank linings and the smoother the bead the better polish it will take. One of the advantages of the heliarc weld is that it requires much less grinding and polishing. It is vitally important that there be no rough spots on the inside of the holding tank that can present sanitary difficulties.

Once the stainless steel sheets are welded together into one unit the next step is to make them into a cylinder. The single sheet that is made up of several sheets welded together is fed into three rollers arranged in the form of a pyramid, two on the bottom, one on the top. The

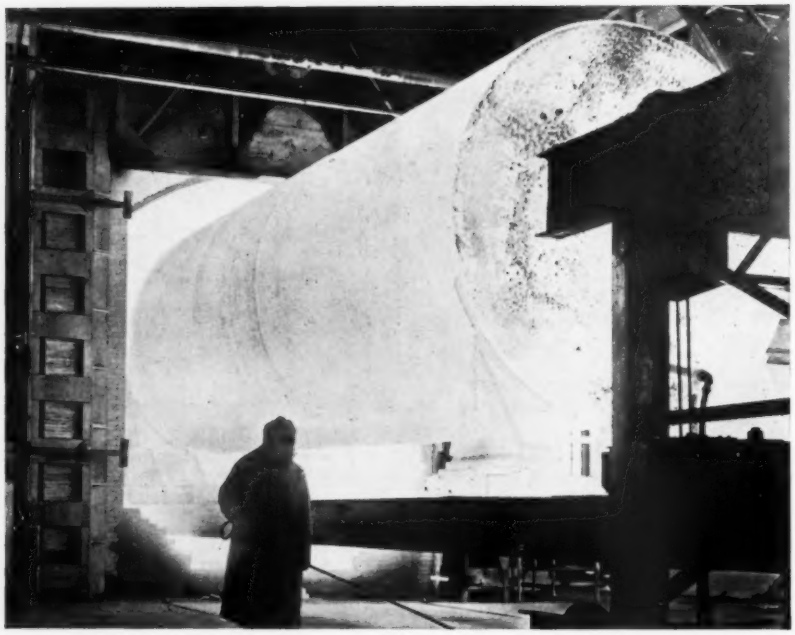
Inner lining welded, ground, and polished; cork insulation fitted and in this case made additonally secure by the use of steel straps, the tank is ready for the outer jacket. Outer jacket made of mild steel is rolled into a cylinder and then wrapped around inner tank.



Trimming edge of outer tank head after it comes from the press is an exacting task. In order to insure a straight cut, head is leveled and then rotated. Cutting torch held in a steady rest remains stationary, trimming as edges of head pass.



After jacket has been put on the tank over the cork insulation the final seam must be welded. Size of holding tanks makes the matter of placing them in a position so that work may be done on them, a complicated problem. Slings of rope and chain are used in this case.



Asbestos suit makes this workman look like a medieval knight as a holding tank at white heat comes out of the annealing oven. Tanks in the dairy industry, made from stainless steel, are not subjected to this process. This huge forty foot monster is a beer tank.

operation comes rather close to being black magic. The sheet goes in flat and comes out curved. The final weld is put on where the two edges of the rolled sheet come together. The cylinder is re-rolled to take out any distortions that might have been caused by the final welding.

### Heads Are Bumped

The ends or heads of the holding tank present another problem. Sanitary considerations require that there be no square joints where side and end meet. Also there is more strength in a curved surface than in a flat surface. For these reasons the heads on holding tanks are dished, that is curved outward toward the center.

The dishing operation may be done either by a process called "bumping" or by a process described as "spinning." In the bumping process the flat circular head is placed in a large rambling machine that hammers or "bumps" the curvature into the head. The bumping begins in the center of the head gradually works out to the edges. The degree of curvature can be controlled by the operator. From the center to a few inches from the edge the curvature in the head is uniform and not very great. The last several inches are the area where the joint with the cylinder is to be made. This is called the knuckle and the curvature becomes much greater in order that there will be a smooth rounded corner between the cylinder and the head.

Polishing the head is a neat trick. The head is dogged down on a chuck. The chuck then rotates and a shaft with an emery pad attached to the end is held against the revolving surface. The polish required by dairy equipment is specified as a No. 4 polish. This is a standard dairy finish and means that the grits used as abrasive must pass thru a screen that has 120 holes per square inch.

With cylinder and head welded together the liner is filled with water and rotated slowly to check all weld lines. Any leaks that exist are discovered by this test.

### Cork for Insulation

Insulation used in holding tanks is cork. The cork comes in slabs about a foot wide by three feet long. At intervals of approximately 2½ inches the slabs are cut lengthwise part way thru. The purpose of the cuts is to allow the slabs to bend so that they will conform to the curve of the cylinder and head. The cork is fastened to the lining by various methods. One practice is to stick it on with asphalt. Another method is hold it in place with steel straps that encircle the cylinder. Beside being a good insulating material cork also serves as a structural material. The outer jacket may be wrapped around the insulated liner without need for additional bracing between the inner and outer tank.

Before the insulation material is put on the various openings that the tanks require are cut in. Then the nipples, sleeves, and extensions for fittings are welded on. This is necessary in order that the insulation may be cut to fit snugly. Also first things come first and it would be more than little awkward to try to do a good welding job with two inches of cork insulation in the way.

### Making the Outer Jacket

The outer jacket on holding tanks is made from steel plate. The plate is a heavier gauge than the liner and is not usually stainless steel. The plate comes in large sheets of widths sufficiently great so that a single strip can be cut from a sheet to form the outer jacket. Where stainless steel comes cut to exact size steel plate has to be trimmed. Trimming is not the most spectacular operation to watch but for neatness and ingenuity it takes the well known cake. The sheet of plate is laid out on the floor of the shop, one edge against a device that contains a screw or worm about thirty feet long. Geared into the worm is a carriage that holds cutting tools. The cutter is brought into proper cutting position relative to the flat steel. The worm starts to turn and in turning moves the carriage with the cutting tools at a uniform speed and in straight line along the sheet of steel. The trimmed steel is then run through the rollers for curving and the liner with its insulation is placed inside this larger cylinder and the steel is literally wrapped around it.

Another happy device one sees around holding tank shops is a scheme for trimming the edges on the heads for the outside jackets. These heads are heated and then stamped out under 500 ton pressure. The edges, however, are rough and must be cut down. To do this the head is mounted on a kind of turn table. The cutting torch is held in a steady rest and as the head rotates on the turn table the torch trims off the rough edge much as one pares an apple.

When the jacket cylinder and head have been assembled and welded the whole is handblasted in order to remove dirt, rust, oil and grease so that paint will stick.

### Valley of Giants

Many industries other than the dairy industry use holding tanks. Brewers use immense tanks in the manufacture of beer. These tanks, glass lined, are annealled after they have been fabricated, that is they are placed in a huge oven and heated to white hot temperatures, then removed and allowed to cool. One of the most spectacular sights to be seen in any industry is the huge glowing bulk of a forty foot holding tank when it comes out of the fiery stomache of an annealing oven. Hardly less spectacular is the sight of the great cylinders, like prehistoric monsters, arranged in row after row on the factory floor. These tanks are masculine with a vengenance. This is indeed the valley of giants.



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# Look to the years ahead...

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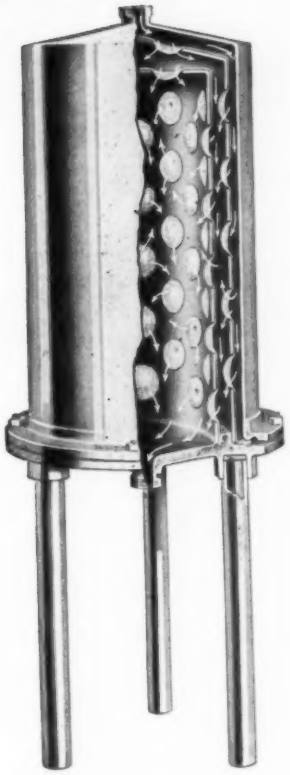
"Filtr-ite"

# COLD MILK FILTER



Because of it's remarkable volume capacity—35,000 lbs. of milk per hour,—the Stoelting "FILTR-ITE" filter is ideal for use along with a pasteurizer. Will not slow up the pasteurizing process. Will insure absolutely clean, sediment free milk.

Heavy duty tests have shown 50,000 lbs. of milk cleanly filtered using only ONE set of filter bags, with pressure above normal, proving both sturdy construction and efficiency.

## Stoelting Features

- DOUBLE FILTRATION
- 35,000 LBS. PER HOUR
- MACHINED DAIRY METAL BASE
- EASILY CLEANED
- EASILY INSTALLED
- LOW COST OPERATION

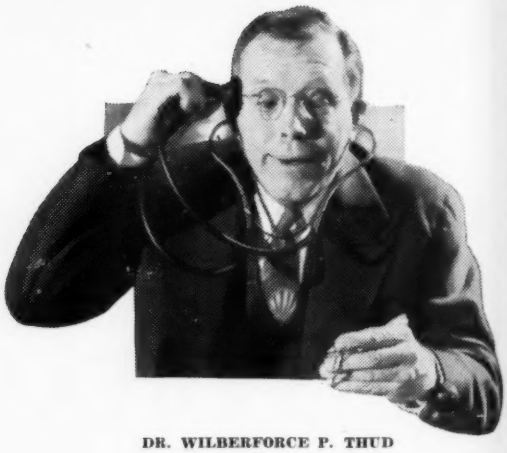
*Write Today*

STOELTING BROTHERS CO.

KIEL, WISCONSIN

# How To Make
# GREEN MILK

*By* **WILBERFORCE P. THUD**



DR. WILBERFORCE P. THUD

*In the exquisite travail that marks man's slow progress from cave to penthouse there are few episodes more inspiring than the quest for food. From venison haunch to prime roast, from fermented mare's milk to pasteurized, homogenized, and fortified, the things of the palate have kept pace with the advance of civilization.*

*The realization that food is a matter of the eye as well as the tongue is the most recent milestone in the long journey. Aware of this trend toward eye appeal and in response to requests from readers for a discussion of the subject the "AMERICAN MILK REVIEW" searched for an eminent authority to discuss the latest and possibly most startling development in this field. In Dr. Wilberforce P. Thud, Professor of Comparative Pigmentation at the Institute for Applied Coloration we found our man. After reading his discourse on the subject we think you will agree with us that what Dr. Thud does not know about green milk is not worth knowing. As a matter of fact, what he does know about green milk is not worth knowing either, but the guy has to make a living.*

*We are happy to present Dr. Wilberforce P. Thud on "How to Make Green Milk."*

---

A REVIEW of the literature dealing with the subject of green milk reveals that, with exception of a reference to an obscure case in Western Kleptomania in the early seventeenth century and a slight suggestion that Globulson, working under E. Colison, had in his experiments with the butterfat content of milkweed observed a phenomena which he called lactose pigmentia, there is no literature on green milk. The only other crumb, or perhaps I should say drop, of information that may pertain to the subject is the poetic discussion of a purple cow which, unfortunately, the author declares he has never seen.

It is, therefore, with no little surprise that the dairy industry researchmen regard the achievement of actually manufacturing green milk.

The value of this particular form of milk is postulated as along the following lines: Roughage, commonly known as grass, which has long been the chief sustenance of cattle, is green. Now the process by which grass becomes green is one in which large amounts of a substance called clorophyl are manufactured by the plant and stored in the blades of the roughage.

This clorophyl is manufactured by a process which botanists describe as photosynthesis, not to be confused with photogenic, and which is the process of transforming the energy in the sun into food. It is a nice little trick. The clorophyl which is green and which, therefore, gives the green color to grass is extremely rich in vitamins P, D, and Q and as M and X in lesser quantities.

In the complicated mechanism of the bovine stomach that transforms the roughage into milk the green color is lost. Although we are not sure just at what stage this bleaching takes place, it is presumably somewhere between first and third.

The loss of the green color has, indeed, been a major riddle. Cattle are without exception either black, brown, redish-brown, or white. There is not a single substantiated record of a green cow. The Western Kleptomania cow, referred to earlier, was said to have been a brilliant emerald green.

At first it was thought that this unusual creature had in some strange manner developed a mechanism for preserving the chlorophyl which, if properly controlled, could result in the production of green milk by taking it out of her hide. Further investigation disclosed that the animal was the property of a former resident of the city of Dublin and had been artificially colored as a patriotic gesture.

### No Solution in Sight

Although research has been diligent, up to the present time and for the forseeable future, investigators have not and will not be able to answer the mystery of what happens to the green in the grass once it gets inside of a cow's stomach. The green is in the grass during the intake process, but once inside the animal it is never seen again. From time immemorial cattle have been carrying the secret of the green with them to their graves.

Regardless of the disappearance of the green color the nutritive value of the green milk based on the vitamin content of chlorophyl has resulted in a ceaseless search for some practical means of producing an acceptable method of impregnating milk with the color of its derivation. This has at last been accomplished.

Globulson in his work on milkweeds came to the conclusion that the butterfat content of milkweed milk was not. He did, however, observe that by adding a green vegetable dye to milk heated to 137.568 degrees F. and held at that temperature during the noon hour, a milk, green in color could be manufactured. This work, which held so much promise, came to an untimely end when a former laboratory assistant, brooding over his dismissal, substituted paris green for Dr. Globulson's vegetable green with disasterous results.

Proceding from where Globulson left off, Lightweight recently discovered that by adding a judicious amount of moisture milk volume could be expanded almost indefinitely (¹). In his most recent paper, "A Study of the Use of the Cold Water Tap In the Quantitative Expansion of Lactic Secretions from

. . . that's the only way to make certain you get the most for your cleaning dollar . . . the best possible cleaning results at the lowest possible cost! And, that's why we invite you to compare sensational *new* Diversey D-Luxe with any other general cleaner . . . compare its performance . . . compare its superior water-softening action . . . its powerful wetting action . . . its unique emulsifying action . . . its complete, revolutionary free-rinsing action . . . compare its practical economy . . . figure all the angles and you, too, like thousands of others will choose *new* Diversey D-Luxe! Write for FREE SAMPLE . . . make your own comparison!

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**CALL YOUR DIVERSEY D-MAN**

He's Ready, Willing and Better Able to Serve You in Solving Any and All Sanitation and Insect Control Problems! Let Him Show You the Wonders of the Enoz System of Modern Insect Control!

**THE DIVERSEY CORPORATION**

53 W. JACKSON BLVD., CHICAGO 4, ILL.

IN CANADA: The Diversey Corporation (Canada) Ltd., Toronto, Ontario

Bovine Mamalary Glands", Lightweight found that volume responded directly to the incidence of flow in the water faucet.

It was in the course of this research that he stumbled upon his epoch-making discovery that paved the way for the manufacture of green milk. The impact of this discovery, which Lightweight postulates as follows: "In a given volume of milk the presence of a great number of tiny green particles in a suspended state will give to the milk a green color", is incalculable.

On the basis of this fundamental concept subsequent workers were able to bridge the gap between the theoretical and the practical. As a result the production of emerald milk has developed to a highly efficient degree.

### Equipment Is Simple

Equipment needed for the manufacture of this product is relatively simple. It goes without saying that equipment must be sterile. Also it is recommended that the use of red lead in pipe joints be avoided inasmuch as the red lead tends to give a slightly auburn tinge to the finished product. Best results have been obtained by using a thirteen foot section of garden hose, a second-hand washing machine, three boxes of fire crackers, one set of old golf clubs, any discarded homogenizer that you happen to have around the plant, and a weak mind.

It is important that the washing machine not be an automatic affair secured from a launderet. Experiments have shown that this type of machine invariably ceases operation at a crucial point in the process and will not resume its function unless an additional twenty-five cents is inserted in the slot. Due to the fact that union regulations require a separate operator for the insertion of the quarter, and nobody in the plant has two bits anyway, recommended techniques call for an ordinary second-hand machine rather than one secured from a "Wash 'em while you wait" establishment.

The ingredients used in the manufacture of chrysolite milk are likewise unpretentious. A quantity of milk varying in volume according to the amount of product desired should be available. The only additional ingredient is a supply of coloring matter commonly used by the little woman when making frosting on March 17. At one time it was thought that the addition of linseed oil improved the smoothness of the output, but plant operators discontinued the practice when it was discovered that purchasers were using the product as a coating for blinds.

This was considered an unethical practice and poor advertising. Actually the point involving the ethics of the thing were not well taken. It makes little difference whether one coats the inside of his stomach or the outside of his blinds. However, the consensus was that the use of chrysoprase milk as a coloring for the blinds was detrimental to the industry. After a congressional investigation and a hearing before the milk control board the practice of fortifying the product with linseed oil was discontinued.

### Differences of Opinion

Techniques of production vary. The main object is to get the coloring matter into the milk. Some authorities, notably the disciples of Globulson, advocate putting the coloring matter into the milk. Others, primarily those of the Lightweight school, recommend putting the milk into the coloring matter. Diligent research on the two methods has failed to establish any real difference in the end product. If the operator has any feeling in the matter it is suggested that he pursue whichever technique offers the most satisfaction. "Gather ye primroses while ye may."

The coloring matter, mixed with ordinary tap water at a temperature not exceeding that of a pregnant fox in a forest fire (2), is lead through the thirteen foot section of garden hose to the washing machine. Likewise the milk. Note that either the milk can go in first or the coloring matter. Once the two liquids are in contact with each other the mixing operation must be undertaken.

Old golf clubs produce the best results in this phase of celadon milk manufacture. Of course if the washing machine works it is perfectly all right to throw the switch and use the agitator in the machine as the mixing device, but who ever saw a second-hand washing machine that would work? My personal preference is for a number five iron that belonged to my wife's uncle.

The Lightweight school is partial to niblicks and there are those who swear by putters, not an unusual situation of course. Mixing should continue until the product assumes a rich, uniform green. The degree of green may be controlled by the addition of more coloring matter or more milk, according to the circumstances and the temper of the operator.

Upon completion of the mixing process the product may be run through the homogenizer. This does not do any good but it is an excellent sales point. "Chrysolite Milk". "It's Homogenized". "For Adults Only". If that doesn't fetch in the trade nothing will (3).

### Markets Not Exploited

Markets for green milk have not been fully exploited. A few years ago the State of Rhode Island enacted legislation requiring out of state milk to be colored in order that it might be distinguished from domestic milk. No kidding, they really did. The Federal Courts, however, failed to cooperate and this potentially splendid market died 'borning when the law was declared unconstitutional.

There has been some use of green milk as a lubricating oil. This market has been extremely uncertain, however. The oil companies have been fighting the product vigorously and have introduced legislation that would prohibit the use of green as a coloring matter for milk.

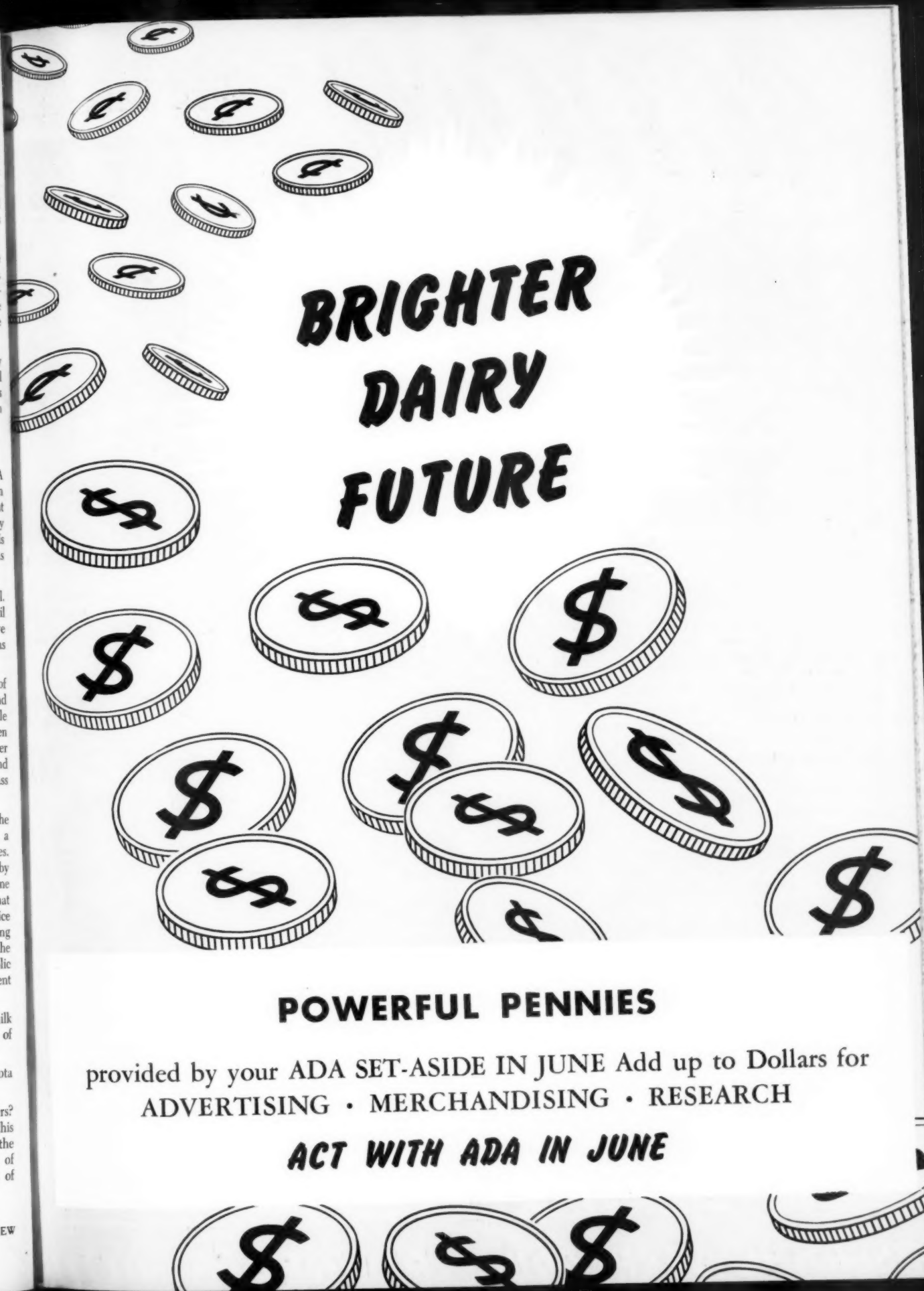
The oil people argue that green is the natural color of lubricating oil and that the practice of coloring milk green and selling it as oil is unfair competition. The green milk people point out that the natural color of oil is black and that the green comes in only as a refinement and also as a sop to consumer preference. They also say that the milk comes from grass and that all they are doing is putting the natural green of the grass back into the milk.

The outcome of the controversy is uncertain. At the present time green milk is reaping a harvest resulting from a vast amount of free advertising in the form of newspaper stories. Once the oil people stop trying to preserve their market by legislation and start selling oil the free ride will probably come to an end. To be quite candid about it, in spite of the fact that green milk made from Class II material can sell at half the price of regular oil, it just isn't as good a product for lubricating purposes. Until that time arrives, when the oil interests see the light, operators will do well to take advantage of the public sympathy and free advertising which is theirs at the present time.

(1) Unfortunately Lightweight's discovery of moisturized milk was made more or less valueless by the introduction of the cryscope. Also the sheriff had a small influence.

(2) A temperature standard originated by a North Dakota researcher, name supplied upon request.

(3) At this point readers may ask what about fire crackers? Fire crackers have no value in the production of this product but experts have found that their inclusion in the list of required equipment is an excellent method of accumulating a substantial inventory for the Fourth of July.


BRIGHTER
DAIRY
FUTURE
POWERFUL PENNIES
provided by your ADA SET-ASIDE IN JUNE Add up to Dollars for
ADVERTISING · MERCHANDISING · RESEARCH
ACT WITH ADA IN JUNE

# ACTION!

ADA SALES GUNS are booming for BUTTER . . . MILK 'n' CREAM . . . CHEESE . . . ICE CREAM . . . EVAPORATED MILK . . . DRY MILK! By placing the appetizing food facts about these products before the American buying public, you are protecting *your dairy investments by building markets for dairy foods.* Yes, you're working for a BRIGHTER DAIRY FUTURE—a future assuring adequate prices for your products . . . a fair return on your labor, holdings, risks and costs.

The big step in making all this possible is your full cooperation in the American Dairy Association advertising set-aside in JUNE.

## 12-For-1 Returns

The POWERFUL PENNIES set aside in June become "jet-propelled" as used by ADA. Twelve-for-one returns are given *two ways:* (1) Twelve months of sales action for the one-month set-aside in June; (2) $12 in dairy product advertising by related food manufacturers and others for every $1 invested by ADA. Your cooperation is your only investment. The cost per dairy farmer is less than 25c per cow per year. *Yet look at what it provides!*

**ADA ADVERTISING** . . . in magazines, newspapers, on radio, express trucks and billboards . . . tempting the millions to buy!

**ADA MERCHANDISING** . . . working with retailers and related food manufacturers to sell more dairy foods!

**ADA RESEARCH** . . . finding new markets and new ways to sell and use more dairy products.

See typical ADA magazine ads to your right—only a few of the many appearing throughout the year, reaching America's millions. See how powerful your set-aside pennies become! Give ADA your best in June for a BRIGHTER DAIRY FUTURE.

### ROLLING ALONG!

Express trucks across the nation flash brilliant sales-creating ADA posters—varied to cover the various dairy products—seen by millions. Your POWERFUL PENNIES provide them. Do your part in June.

## The ADA Se n JU

**MILK 'n' CREAM** glorify so many "Cream for Christmas" and all the year. A CREAM around the calendar!

**BUTTER**—so appealing, so appeti to eat it right out of the page. Think of the illions—this and many other butter ads duri

## KEEP THIS YEAR 'ROUND PROGRAM ROLLIN O

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# Sell in JUNE Provides ADS like these the Year 'Round

**DRY MILK** gets a full part of ADA advertising support. See how it is featured here as the "Miracle in Every Package." DRY MILK is truly America's miracle food!

**ICE CREAM**—America's favorite—is selling extra millions of gallons—as ADA drives home the story of "Serve Ice Cream at Home—Make it a Family Affair for 'round the clock enjoyment."

Cheese Festival
AH-H-H! CHEESE AS YOU LIKE IT!
PLEASE WITH CHEESE . . . NINE WAYS LIKE THESE!
Cheese 'n Crackers . . . Get at its Best
FIRST FOODS
AMERICAN DAIRY ASSOCIATION

**CHEESE**—a nation-wide sales festival every year—every day—as colorful, tempting ads sell America on the goodness and nutritional benefits of CHEESE in all its varieties!

**EVAPORATED MILK** is glorified as the Food of 1,001 Uses—in appetite tempting recipe copy like this ad which makes America's favorite foods irresistible to the millions!

**...LLING ONG WITH YOUR ADA SET-ASIDE IN JUNE**

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# Do it this Way:

To make it easier for you to do your part, the ADA state organization is providing posters for your plant . . . literature for your producers . . . every help it can give you! Here's what you do—

1. Put up the "Act with ADA in June" Campaign Posters at Your Plant.

2. Before June Set-Aside Period, Send ADA Folders to All Your Patrons.

3. Make the ADA Advertising Set-Aside on All Patrons Through 30 Days in June!

In most states, the set-aside is being made at the rate of one cent per pound of butterfat (or its equivalent) marketed June 1-30—thirty days only!

**AMERICAN DAIRY ASSOCIATION**

20 N. Wacker Drive Bldg.
Chicago 6, Illinois

## SET ASIDE for ADA in JUNE

# *Follow them Outside*

## to sell more chocolate milk!

As your customers change over from indoor to outdoor living, shift your distribution with them. "Follow Them Outside" . . . and watch your chocolate milk sales soar. Let your Johnston man help you with selling helps and 27 proven merchandising plans that sell your chocolate milk to more people more often—outside and inside. Let him show you, too, how Johnston Dairy Powder can increase your profit per pint . . . and give you a better tasting chocolate milk. Send the coupon today!

Johnston
CANDIES AND CHOCOLATE

ROBERT A. JOHNSTON COMPANY
*Chocolate and Cocoa Division*
MILWAUKEE, WIS. HILLSIDE, N. J.

Robert A. Johnston Company, Dept.M4, Milwaukee 1, Wisconsin
Dear Sirs: We want to increase our chocolate milk sales this summer. Please send the Johnston man our way soon.

Name _____
Company _____
City _____ Zone _____
State _____

# *A Legislative Commission Looks At*
# THE HOME DELIVERY OF MILK

**New York State Committee Sees Possibilities of Price Reduction in More Efficient Distribution — Call for Industry Help in Licking Waste Motion**

*There has probably been more loose thinking about the price spread between farm prices and consumer prices of milk than any other phase of the milk business. Prompted by the specter of post-war dislocations the legislature of the State of New York, created in 1945, a temporary commission on agriculture. The function of the commission was to make studies and surveys of the agricultural resources and conditions of New York State.*

*The most recent project completed by this commission is an analysis of the spread between farm and consumer milk prices in New York City. The report was submitted to the Governor and the Legislature on March 16 of this year.*

*The study was made under the direction of Dr. E. C. Young, Dean of the Graduate School at Purdue University. The work was intensive and thorough. Despite the fact that it deals with the New York market the findings are of value to dairymen everywhere.*

*Although endowed with all the powers of a legislative committee the investigations of the commission were carried on in an atmosphere vastly different from the inquisitional tactics unfortunately so characteristic of other governmental delvings into the milk business. No names were called. No charges were made. No newspaper headlines were sought. The commission was interested in getting the facts on the "spread" and they did it in a workmanlike manner worthy of public officials.*

*The general conclusions of the study are to the effect that reduction in the amount of the spread "can be obtained only by reducing costs". The cost area that offers the most promising opportunity for reduction, the commission says, is in delivery costs. Printed below is the complete text of the report on this segment of the milk industry. Other portions of the commission's report will be printed in subsequent issues of the "American Milk Review".*

*Whether or not dairymen agree with the findings set forth in the report of the study, the high standard of statesmanship set by the commission will stand as a model for other governmental bodies. If no other accolade were forthcoming, the commission would merit a small niche in the hall of immortality because of the literary character of its report. Not only is the type large enough to be easy on the eyes, but the context itself can be readily understood. And finally, good friends, it is first rate reading.*

---

THE distribution of milk to homes in New York City accounts for a larger part of the spread than does any other function and creates, among the average routes of individual companies, costs per quart ranging from a low of 4.2c to a high of 7.2c. Distribution costs among individual customers show an even greater range of from 1.8c per quart to 26.4c per quart.

This section describes the individual functions which comprise home delivery and discusses the causes of high distribution costs and the reasons for differences in cost.

## FUNCTIONS OF HOME DELIVERY

A typical home delivery routeman performs the following functions in the daily serving of his route:

1. *Gets vehicle and returns it to garage*

The routeman gets his truck from the garage, drives it to the loading platform, waits in line to load and, after serving his route and unloading his empties, returns the truck to the garage.

This job is done daily and requires about the same time for all routes at a given plant, regardless of the number of customers served or the size of the load.

2. *Loads and unloads*

The routeman takes full cases from the platform man or the end of the conveyor and stacks them in his truck. After serving his route, he unloads empty container boxes and cases of empty bottles at the unloading platform. The time required for this job varies with the number of cases loaded.

3. *Drives to route and returns*

Driving from the plant to the first customer stop and returning from the last customer call to the plant takes about the same amount of time each day for a given route. It bears no relation to the customers served or the number of packages delivered.

4. *Delivers*

The time required for a trip from the truck to the customer's door with the product and the return to the truck with the empty bottles depends upon the distance traveled. The study shows a dependable correlation between these distance-times and the following dwelling types:

Row Houses
Detached Houses
Twin or Double Houses
Walk-Up Apartments
Apartments with Elevators

Because it was impracticable to collect data on the actual delivery distance traveled, the relationship between delivery time and dwelling types was used in measuring time requirements. The total delivery time on a route depends upon the number of customers served and the dwelling types.

5. *Collects*

Collection of customers' bills may be done at the time of delivery but more frequently is done by calling back on the customer after delivery. Much of the delivery of milk is done before daylight, when customers are not available to make payments.

This time is not dependent on the quantity of products delivered by the routeman. The total collection time required by a route depends on the total customers served, and on the relative number who elect to pay their bills daily, weekly, semi-monthly, or monthly.

6. *Records Sales and Collections*

Products sold and/or money due, and also money collected, are recorded in the route book for each customer each

day. The total time required for this function depends on the number of customers served daily.

7. *Settles Accounts and Makes Out Order*

At the end of the day, the routeman checks his sales against the load charged to him, turns in the money from collections, makes out a settlement sheet accounting for his load, and makes out his order for the following day. The time required for this job has little relation to either the number of customers served or to the number of packages delivered.

The costs which are incurred in performing these functions fall into the following three classifications:

1. *Delivery Expenses*

Base wages of routeman and riders
Route Supervision
Truck Expense
Licenses
Ice

2. *Sales, Credit and Collection Expense*

Salaries of salesmen, collectors and credit men
Office salaries
Advertising, gifts, donations, contributions and complimentary products.
Traveling and entertainment expense
Office expense including stationery, printing and postage
Telephone and telegraph
Power, light, heat and fuel (excluding trucks and autos)
Water
Repair parts and labor (excluding repairs to trucks and autos)
Automobile expense
Depreciation, insurance, rent and taxes of all types except that applicable to trucks and autos and payroll taxes
Miscellaneous expense

3. *Administrative Expense*

Administrative salaries
Miscellaneous administrative and general expense
Social security, unemployment insurance and workmen's compensation
Professional services, dues and subscriptions
Retirement expense

These costs must be recovered by the daily operation of home delivery routes. Therefore, a cost per route day covering these incurred expenses has been determined as a basis for charging for the time required to serve various customers with a varying number of quarts per delivery.

The costs of horse routes have been omitted from this report because of the small number in the city.

## Method of Study

The cost of delivery to homes was determined by an accounting analysis of the expenses incurred for home delivery routes, and by time studies of routes in normal operation.

The expense of operating delivery routes and maintaining the necessary sales and administrative functions was determined by a 12-month analysis of the books of account of each company.

Forty seven different retail routes were time studied for a total of 89 route days covering 11,161 delivery calls. The time necessary to make collections was determined by studying 2,690 collection calls. The mileage driven by the routes studied was 608 miles driving between the route and the dairy, and 524 miles of driving on the route,—a total of 1,132 miles.

In addition to a time study analysis of these routes, data were collected by questionnaires taken under the personal supervision of staff men who interviewed route drivers for


WE'LL STICK TO *Basic Ideas*

•

**In Design, Construction and Materials**

•

It is a fine thing to propose wonderful theoretical ideas about well water systems and vertical turbine pumps, but Layne never ventures away from everyday basic ideas. That fact may account for the world-wide use and popularity of Layne Well Water producing equipment. It certainly accounts for such things as high efficiency, rugged construction and reliability of operation. So until the impossible happens, you can be sure that Layne engineers and designers are sticking to basic ideas that always pay off in satisfaction to the user.

Of course Layne Well Water Systems are as modern as tomorrow, in that they are properly designed and constructed of the finest tested and proved materials. Furthermore they are as accurate in precision building as modern tooling and experienced workmanship can make them.

In buying a well water system, you naturally want a full dollar's worth of value. You want a maximum amount of water at a minimum of daily operation cost—plus freedom from breakdown and repair expense. Those requirements just about sum up exactly what you get when you choose a Layne Well Water System. For further information, catalogs, bulletins, etc., address Layne & Bowler, Inc., Memphis 8, Tenn.

LAYNE
WELL WATER SYSTEMS

**AFFILIATED COMPANIES:** Layne-Arkansas Co., Stuttgart, Ark. * Layne-Atlantic Co., Norfolk, Va. * Layne-Central Co., Memphis, Tenn. * Layne-Northern Co., Mishawaka, Ind. * Layne-Louisiana Co., Lake Charles, La. * Louisiana Well Co., Monroe, La. * Layne-New York Co., New York City * Layne-Northwest Co., Milwaukee, Wis. * Layne-Ohio Co., Columbus, Ohio. * Layne-Pacific, Inc., Seattle, Washington * Layne-Texas Co., Houston, Texas * Layne-Western Co., Kansas City, Mo. * Layne-Minnesota Co., Minneapolis, Minn. * International Water Corporation, Pittsburgh, Pa. * International Water Supply, Ltd., London, Ontario * Layne-Hispano Americana, S. A., Mexico, D. F.

396 routes and collected data for 55,204 home delivery customers. The information collected covered the following points:

1. Type of dwelling.

2. Frequency of delivery.

3. Whether collections were during delivery or on callbacks.

4. Whether the customer paid daily, weekly, every two weeks, monthly or through the office.

5. How many packages the customer received per delivery.

Through route time studies, it was determined that the total time required for the following jobs is dependent on the number and type of customers on the route:

Driving between customers

Delivery

Collections

Loading and unloading the truck

Recording customers' deliveries and collections

The time for these jobs was found to have little relation to the number of quarts delivered to the customer.

Considerable difference was observed in the time required for these services to customers living in various types of dwellings who paid their bills in different ways. A particular kind of customer, however, was found to require substantially the same amount of time on any route.

The following jobs performed by a driver each day were found to have little relation to either the number of customers served or the volume on the route:

Settling accounts and making out the next day's order

Driving to and from the route.

Getting the vehicle and returning it to the garage.

The time required for actual service to each customer exclusive of these functions was determined for each customer according to the type of dwelling in which he lives and the manner in which he pays his bills, using the time values developed from the time studies.

The total of this customer time on each route was divided into the amount of money necessary to operate the route and maintain the selling and administrative functions. This resulted in a dollar cost per productive minute which was then applied to the minutes required to serve each customer.

This cost for serving each customer is carried equally by each product package delivered since the delivery trip from the truck to the door is practically the same for a given customer regardless of the volume delivered, within normal limits.

The cost of an average customer call is 18½c. If only one quart is delivered to this customer, that one quart carries the entire cost of serving the customer. If two quarts are delivered, each quart carries one-half of the cost, or 9¼c. As the number of quarts delivered increases, the cost per quart decreases. For one company, the average quarts delivered was found to be 2.86, resulting in a cost per quart of about 6½c.

In addition to this delivery cost, the driver is paid a commission amounting to 0.6c per quart. Losses of approximately .04c per quart in bad debts must also be considered, making a total-distribution cost of 7.1c per quart.

In order to compare costs with prices, all of these figures are on the basis of the cost per quart to the average customer who takes 2.86 quarts. In addition, however, Tables 1 through 8 for both home delivery and store distribution show total daily costs of operating the average routes of each company studied. For example, in Table 1, the daily cost to operate the average route for Company 1 consists of $24.91 for fixed costs per day, commissions of about $2.75, and bad debts of $.21.

### Explanation of Differences

The maximum observed difference in costs per route day for the average routes of companies operating multi-route system is $1.71. This cost difference does not account for any significant part of the difference in distribution cost per quart.

However, the costs incurred by individuals* owning and operating a single route are in some cases considerably lower. The average individual route owner, who operates his route without a helper, has costs per day of $17.77. Average routes of this kind which are operated by the owner and a helper have costs totaling $22.77 per day. This compares with $23.20 to $24.91 for company-owned routes. The principal difference in cost between this type of route and the route of an integrated company lies in the sales and administration costs. Individual route owners in general maintain no sales office or clerical staff and do not require the administrative direction necessary to integrated company.

High sales and administrative costs do not appear to accomplish high route volumes. Independent dealers whose sales and administrative costs are less than $1.00 per day serve more customers with more quarts than companies with higher costs.

In addition to these differences in the cost of operating a route there are five primary factors which create higher costs for home delivery and significant differences in costs per quart. They are as follows:

*1. Consumer Dwelling and Buying Habits*

New York City milk customers live in a variety of dwelling types which require different times to serve.

Their order may range from one quart of milk every fourth day, to twelve quarts every other day.

Some customers take their entire supply of milk from their home delivery route. Others supplement this supply with milk purchased at the store, thereby increasing the delivery cost on those quarts delivered to their home.

They may live in congested, easy-to-serve areas close to the dairy, or in remote sections where homes are widely scattered and more costly to serve.

They may save the driver's time by sending a monthly check to the office for their bill, or may require that the driver stop to collect from them after every delivery.

They may demand that the milk be delivered in time for breakfast, making a second call necessary to collect the bill, or they may accept later delivery, and pay the driver at the same time.

*2. Standards of Service*

Few consumer groups have been given the superior service offered to the purchasers of milk delivered to the home. It is traditional with dairies in most markets to compete for customers by increasing service. In some cases where individual product and service costs are not known, these costs exceed the spread available for distribution. New York City is not an exception.

We believe most dairy managements consider it mandatory to schedule their distribution systems to accommodate

*The income of individual route owners is in the form of profit instead of salary. To make their cost comparable, a base salary has been included at union contract rates for 1948, and commissions have been applied as a product cost, also at union rates. In addition to this salary and commission, the profits of the routes accrue to the independent operator-owner.

existing consumer buying habits. Few customers are refused delivery because their purchase does not cover the costs created by the delivery. Nor has this market attempted to encourage more economical buying habits through revisions of the price structures.

3. *Irrational Price Structure*

Individual New York City dairies for the most part have assumed that it is their responsibility to serve this wide variety of customers, entailing a wide variety of costs at a uniform price. Significant differences in service cost are created by the combination of the type of dwelling in which the customers live and the manner in which they pay their bills. On a typical route, the cost of serving a customer living in a row house who pays his bill by check mailed to the office monthly, amounts to 8.6c per delivery call.

Service to a customer living in a detached dwelling where the time required for delivery is longer, and who pays his bill on a daily basis requiring a second call by the driver, will cost approximately 26.4c.

In spite of these wide variations in cost, each customer receives complete home delivery service and his choice of credit policy at identical prices.

In addition to differences in cost created by physical factors and collection practices, significant differences result from variations in the number of quarts per delivery. The cost of home delivery is the cost of serving the customer. Within normal limits, this cost is not affected by the number of units delivered. It follows, therefore, that for a given type of customer the cost of delivery per quart decreases as the number of quarts* delivered increases. For example, a typical cost to serve a customer in a detached dwelling who pays twice a month is 12.4c. If this customer takes one quart per delivery, the entire cost of the service is carried by this one quart. Increases in the number of quarts delivered result in the following costs:

| | |
|---|---|
| Two quarts | 6.2c |
| Three quarts | 4.1c |
| Four quarts | 3.1c |
| Five quarts | 2.5c |
| Six quarts | 1.1c |

In spite of these significant cost differences, the low cost customer who takes six quarts on each delivery pays the same price per quart as the high cost customer who takes one quart per delivery. In none of the multiple route companies studied did we encounter a discount policy based either upon the cost of the service required or the volume of milk per delivery.

This pricing system offers no incentive for the small volume customer either to adjust his delivery requirements toward greater volume per delivery or to seek a cheaper source of supply at the store; neither is there an incentive for the four-quart consumer who now buys a part of his supply at lower store prices to order all of his milk from the home delivery route.

Independent route owners do offer discounts. Their December 1948 prices ranged from 22c to 26c for Homogenized, and from 21c to 26c for plain milk. Although they usually operate without a formal discount policy, their discounts tend to follow volume per delivery call.

4. *Broad Responsibilities of Routemen*

The typical routeman in New York City is responsible for almost all of the functions necessary to sell and distribute milk. Although he is technically under supervision, actually

*Of 55,204 customer deliveries reported by routemen
20% were 1 quarts — 16% were 3 quarts
41% were 2 quarts — 23% were over 3 quarts

*(Please turn to Page 41)*


NEW MARLEY *Verflow** 

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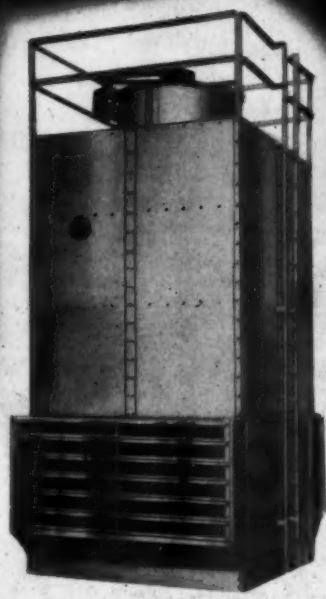

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DR. ROBERT F. HOLLAND

# Problems of the Industry

DR. JAMES C. WHITE

*Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.*

●

### Whey Disposal

**QUESTION—We are making American-type cheese and are having a problem of disposing of the whey. We have a drying roll but find it impossible to dry cheese whey on this machine. The Conservation Department will not allow us to dump excess whey through our sewage system and we have no ready market for whey in our area. Perhaps you can make some suggestion for the disposal of this material.**

**A. M., New York**

ANSWER—Cheddar cheese whey, because of its relatively high concentration of milk sugar, is highly poisonous to fish when placed in a stream. This is because the sugar, as it ferments, takes up the oxygen and the fish suffocate for lack of air.

Unless we have a very large stream to dilute the whey, we must dispose of it by either treating to remove its toxic qualities or converting it to human or animal food.

Septic tanks and cesspools will not handle whey. The lactic acid which develops prevents proper breakdown of the organic materials in septic tanks and they cease to function, becoming clogged with proteins. Filter beds and aerators are necessary to treat whey and they may not be entirely satisfactory in operation. They are expensive to build and maintain and have been a source of trouble when installed.

The easiest way to dispose of whey is in bulk to stock feeders or to condensery plants, but this is often difficult in eastern areas.

Condensing whey is not difficult and is often the answer to the disposal problem. Powdered whey solids command an even better market, but the raw whey should be precondensed and this spray dried. This entails considerable equipment and a heavy investment.

Usually a vacuum pan is used to condense to 50 to 80 per cent solids and partial crystallization of the milk sugar is encouraged by seeding and holding. This condensate is powdered by the spray process preferably, but sometimes on open and vacuum rolls, or on trays in a warm air tunnel.

There are several patented processes adequately described in Hunziker's *Condensed Milk and Milk Powder*, Chapter XXXIX.

The chief reason why uncondensed whey cannot be roll dried is due in part to the low solids content. The film of solids of a glass-like nature will not separate from the roll. Recent work indicates that the addition of glyceryl monostearate helps to alleviate this difficulty.

### Utilization of Returned Homogenized Milk

**QUESTION—We are selling a considerable amount of homogenized milk daily, and have as a result varying amounts returned on the routes. Would it be possible to separate this milk and churn it, or what use can we make of it?**

**E. B. S., N. Carolina**

ANSWER—The utilization of returned homogenized milk has often proven a problem to the distributor. Homogenized milk can be separated but the fat recovery is poor at best and becomes worse as homogenizing pressures are increased. G. M. Trout of Michigan State College studied this problem and summarized his results in the following table:

| Homogenizing pressure | Percentage fat recovery |
|---|---|
| 0 | 99.1 |
| 500 | 98.2 |
| 1,500 | 70.7 |
| 2,500 | 63.5 |
| 3,500 | 36.1 |

Thus, since you are probably using a pressure of about 2,500 pounds per square inch, you may expect to lose in the skim approximately 35 per cent of the fat present.

In addition, the churning of cream made from homogenized milk is quite unsatisfactory, the process being difficult and producing high fat losses in the buttermilk.

On the basis of the above we would not recommend attempting to utilize homogenized milk returns to make butter.

Returned homogenized milk *of good quality* may be used for a variety of purposes, as in ice cream mixes, chocolate milk drinks, cultured buttermilk, and for standardizing cream. Under these circumstances only the highest quality milk should be used for the production of homogenized milk and returns kept at a minimum. Returned milk should be carefully handled, protected from light, kept cold, and utilized promptly.

## HOME DELIVERY

*(Continued from Page 39)*

about 75% of his day is beyond supervisory observation. The office provides a bookkeeping and clerical staff, a credit and collection department and a sales department, but none of these office departments completely relieves the routeman of responsibility for these functions. In addition to his primary job of delivering the product, the routeman—

a. Loads and unloads his truck.

b. Makes out his customers' bills and is solely responsible for their accuracy.

c. Collects from most of his customers.

d. sometimes extends credit on his own responsibility beyond the limit set by his office.

e. Keeps his own accounts receivable records, his own sales records, and settles his own accounts both with the company and with his customers.

f. Is in most cases the only sales contact with the consumer.

These responsibilities require that in addition to his primary delivery function, he also serves as a common laborer in the loading and unloading of his truck, a credit and collection man, a salesman, a truckdriver, and a bookkeeper. These broad responsibilities contribute to the high cost of home delivery because they require a large part of the driver's time which could otherwise be spent in delivering additional quarts to additional customers, thus reducing the distribution cost per quart.

A typical home delivery route operated by an integrated company requires 40% of the driver's time for functions such as bookkeeping, loading and unloading, credits and collections, leaving only 60% of his time for the actual service to the customer.

Some companies have costs higher than others because they elect to provide these services to all customers, regardless of volume of milk taken.

The study indicates that, in general, individuals operating their own routes are more likely to select large volume customers for carrying the cost burden of these services.

5. *Labor Productivity*

Wide differences were observed in the amount of time necessary to serve the customers on different routes. Because of differences in the number of customers served and the type of dwellings predominant on the route, some routes required 10 hours for the completion of all jobs performed by the routeman. Other routes were observed which could be covered adequately in 5 hours. The majority of the routes required from 6½ to 8 hours to serve their customers and to perform all the other duties.

These wide differences in labor productivity indicate that there are some opportunities for a redistribution of work content among routes and for a pay plan that would more accurately reward drivers. The present commission plan does not seem to accomplish equitable payments.

•

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# Killing Bacteria With Ultrasonic Waves Explored at Illinois

## Fantastic Things Happen in the Realm of Ultrasonic Radiation — Practical Application Still in the Future

*By* **HAROLD O. STANLEY**

RESEARCH HAS JUST STARTED at the University of Illinois in the investigation of using ultrasonic waves in the killing of bacteria in milk. If successful, this method may eliminate use of chlorine or other chemicals which leave a taste in water or of heat-sterilizing milk, which sometimes changes the flavor. Bacteria-free milk might be stored without refrigeration. The cost may be less than present methods.

Associate Professor Robert M. Whitney, member of the university's dairy technology department, and Miss Lillian A. Russell, chemist with the Illinois water survey, are doing the experimenting. No reportable results of their investigations are expected for at least a year. The project is a joint undertaking by the University of Illinois and the Illinois Water Survey.

Ability of ultrasonic waves to kill bacteria is known, though the exact way they are affected has not been investigated thoroughly. Ultrasonic frequencies also have been used to homogenize milk, and this possibly may be combined with sterilizing.

### It's Powerful Stuff

Ultrasonic radiation is first of all sound in the ordinary physical sense in which we understand sound. Secondly, it is ultrasound, that is, its frequency is such that it cannot be received as sound is ordinarily received by the human ear. The range of frequencies within our capacity is roughly 30-16,000 cps. Frequencies above 20,000 are designated as ultrasonic. Ultrasonics has been characterized as all acceleration and no movement. A quartz vibrator can attain a minimum acceleration over 4,000,000 times the acceleration of gravity. In a glass rod one end of which is subject to radiation, sufficient heat is generated, by the friction of so rapid and so powerful a vibration of such small amplitude, to burn a hole through a piece of wood.

According to Professor Whitney, the predominantly effective agent of ultrasonic radiation is believed to be a phenomenon called cavitation. The crystal in vibration pushes against the liquid until the maximum amplitude of vibration is reached, then it reverses its direction. The inertia of the liquid in following the crystal causes the liquid to expand and then finally to tear creating a true cavity. As the crystal again reverses direction the cavity suffers a powerful collapse. These terrific changes in pressure cause the release of previously dissolved gases and the discharge of electricity across the cavities, as well as a powerful pumping and shearing action.

In addition to the injurious effects on small animals and fish, the destruction of red blood cells, protozoa and algae, the results of experimentation by other workers in this field over the past twenty years have shown that it is possible to kill bacteria by ultrasonic radiation, though attempts to use ultrasonics to destroy bacteria have resulted in varied degrees of success.

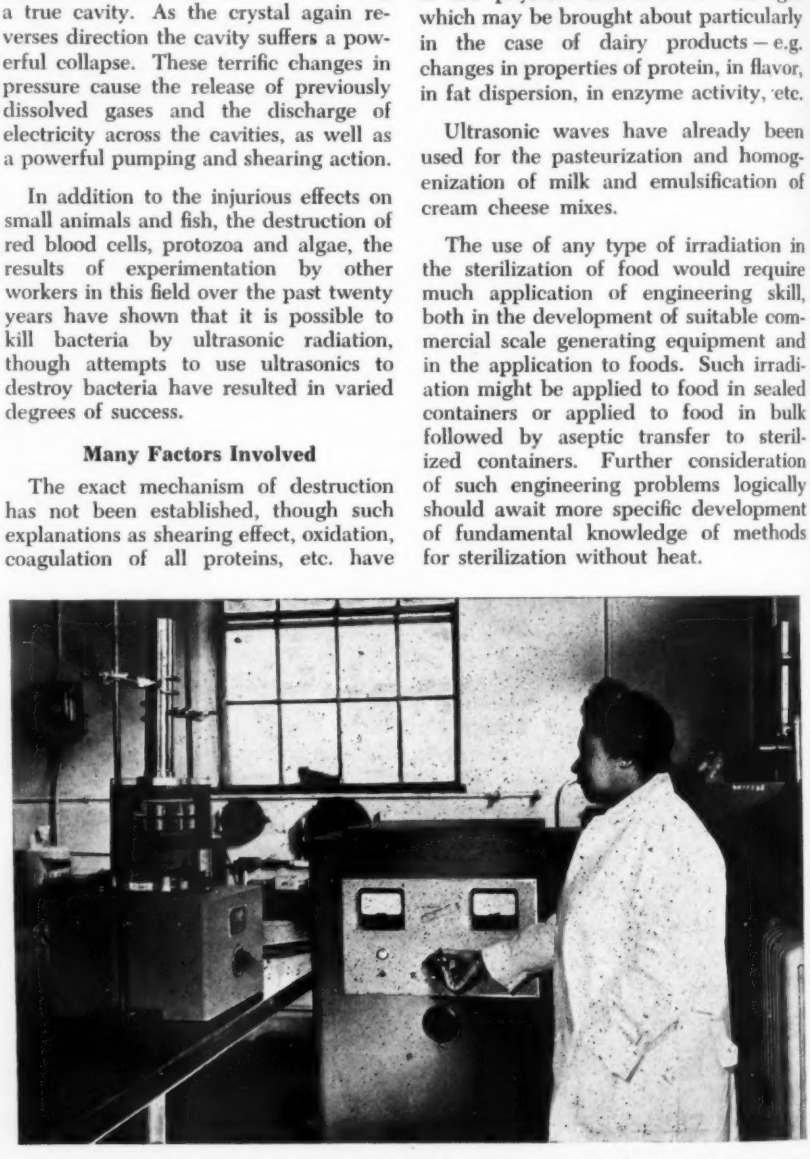
### Many Factors Involved

The exact mechanism of destruction has not been established, though such explanations as shearing effect, oxidation, coagulation of all proteins, etc. have been advanced, and it may be that a given mechanism is operative or efficiently operative only under certain conditions of radiation. It is clear that frequency, intensity, quantity and time of radiation, external temperature and pressure; composition and physical properties of substrate; size, shape and composition of radiation chamber and size, age and type of organism are all variables which influence the efficiency of the bactericidal action of ultrasonic waves.

Professor Whitney and Miss Russell are studying the specific effects of ultrasonic radiation on water and dairy products with attention to the possibility of achieving sterilization in both cases and to the physical and chemical changes which may be brought about particularly in the case of dairy products — e.g. changes in properties of protein, in flavor, in fat dispersion, in enzyme activity, etc.

Ultrasonic waves have already been used for the pasteurization and homogenization of milk and emulsification of cream cheese mixes.

The use of any type of irradiation in the sterilization of food would require much application of engineering skill, both in the development of suitable commercial scale generating equipment and in the application to foods. Such irradiation might be applied to food in sealed containers or applied to food in bulk followed by aseptic transfer to sterilized containers. Further consideration of such engineering problems logically should await more specific development of fundamental knowledge of methods for sterilization without heat.

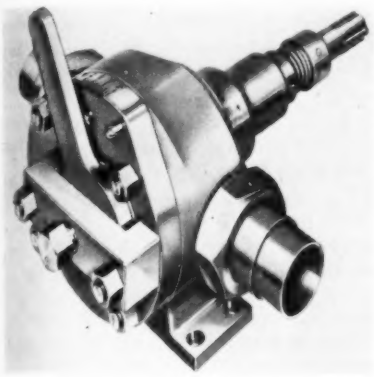


**Miss Lillian A. Russell, chemist with the Illinois water survey, stands beside the equipment used in the experiments with ultrasonic waves. Studies of effect on milk include flavor, fat dispersion, enzyme activity and properties of protein as well as sterilization.**

# USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

### *Sanitary Pump*

A NEWLY-DEVELOPED, variable volume, sanitary pump, designed by engineers of The Yale & Towne Manufacturing Company, Stamford, Conn., for use in both the milk and food industries, is now in production and will be marketed this spring, it was announced here by Meade Johnson, general sales manager. The new pump, which employs the Tri-Rotor pumping principle, is especially adaptable in continuous processing systems.



The new sanitary pump, constructed of nickel alloy metal, is equipped with a manually-operated, variable volume control type head and with either sanitary mechanical seals or conventional food packing (optional). The pump shaft is machined from "K" monel metal and has a spline connection for quick removal from flexible coupling or other types of drive mechanisms.

The new Tri-Rotor pump is said to be the only low-priced sanitary pump equipped with variable volume control. This type of control reduces the need for a variable speed motor. The volumetric capacity of the new pump can be changed from maximum to zero without stopping the unit.

Because the new Yale & Towne pump can be supplied with either the sanitary mechanical seal or conventional food packing, it is adaptable to a wide variety of liquid handling requirements.

•

### *Weight Bulletin*

A NEW 12-PAGE three-color bulletin giving technical information to purchasing agents, methods and materials handling engineers, inspectors, designers, and general management about its new Load King Scale Weight Printer has just been released by The Yale & Towne Manufacturing Company, Philadelphia Division, Philadelphia, Pa.

This bulletin (P1135) answers in detail the following questions about the weight printer: (1) Why was it developed; (2) How does it operate; (3) What functions will it perform; (4) How is it constructed; and (5) What models are available to perform a particular job.

Ten tables detail the available models and their full printing capacities. Thirteen illustrations show the important component parts of the printer as well as final assembly. Two engineering drawings give dimensions for space planning.

In addition to explaining what the printer will do, the bulletin includes examples of printed tickets and a bill of lading.

The sections on why the Weight Printer and how it operates round out this complete text.

Further details can be obtained by writing to The Yale & Towne Manufacturing Co., care this publication.

•

### *Water Rectifier*

THE NEW G.S. Water Rectifier stops scale formation and removes old scale and rust from Sterilizers, Autoclaves, Stills, Instruments, etc., now available from the General Scientific Equipment Co., Philadelphia, Pa.

The manufacturer claims the water rectifier and descaler provides the most efficient and economical means of hard water treatment yet devised. No chemical water analysis is necessary, no mechanical or chemical treatment required.

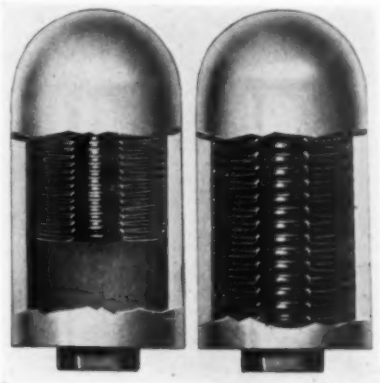
The unit stops scale formation and removes old scale and rust, preventing instruments from becoming rusty. It will keep all inside surfaces of Sterilizers, etc., clean, preventing foaming, priming, pitting and corrosion. It is guaranteed to give satisfactory service for at least one year.

If any apparatus requires more than 30 quarts use a combination of units. Easy to use, simply place the unit in the sterilizer, either on rack or on bottom and sterilizer and instruments are protected for a full year.

Write for complete information to the General Scientific Equipment Co., care of this publication.

### *Water Hammer*

A PERMANENTLY SEALED air chamber, produced by the Wade Manufacturing Company of Elgin, Illinois, is said to eliminate damaging effects of water hammer in any industrial or domestic application. Actual performance tests up to 60,000,000 water hammer cycles support the claim that the device, trade named ShokStop, requires no servicing or maintenance after installation.



Water Hammer is a very common hydraulic phenomenon encountered whenever water in motion is suddenly stopped. Spring operated valves used in many industrial installations and in automatic cycling water equipment almost always cause water hammer, the effects of which may be felt hundreds of feet from the source. The sudden surges of pressure often exceed 800 pounds per square inch and are a major cause of pump damage, equipment failure and even pipe rupture.

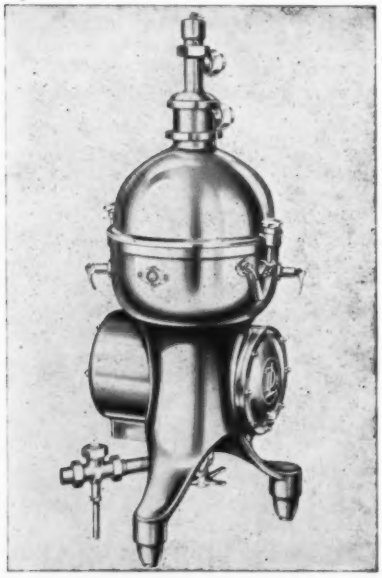
The Wade ShokStop provides an air cushion to absorb the "water hammer" pressure impulse, but prevents water logging of the air chamber, it is claimed. Fabricated metal bellows allows contraction and expansion of the air sealed within it but prevents all contact between air and water.

Advantages claimed for the water hammer arrestor include ease of installation and elimination of all maintenance or servicing needs thereafter.

A 12-page booklet entitled *"The Cause and Cure of Water Hammer"* also contains complete details, including size and application data. *Free* copies are available on request to Wade Manufacturing Company, care this publication.

### *"Cold Milk" Separator*

THE DE LAVAL SEPARATOR COMPANY has just announced the newest addition to the famous line of "Air-tight" Separators and Clarifiers, the new De Laval "Air-Tight" COLD MILK Separator, which will separate cold milk at temperatures as low as 40° F. This De Laval Cold Milk Separator



was developed for milk plants where a relatively small amount of fluid milk must be separated. By separating the surplus milk without the necessity of preheating and cooling, important savings may be made, both in operating costs and in the costs of equipment such as preheaters and coolers.

The "Air-Tight" Cold Milk Separator consists of a regular "Air-Tight" frame and a bowl which is especially designed to effect perfect separation of milk from cream at the lower temperature. In its general structure, but not in detail, the Cold Milk Bowl resembles other De Laval "Air-Tight" Bowls, and Cold Milk Bowls are interchangeable with other "Air-Tight" Bowls of the same size.

The De Laval "Air-Tight" Cold Milk Separator will be available in two sizes: No. 292, Capacity 5,500 lbs. of milk per hour, and No. 272, Capacity 3,500 lbs. of milk per hour.

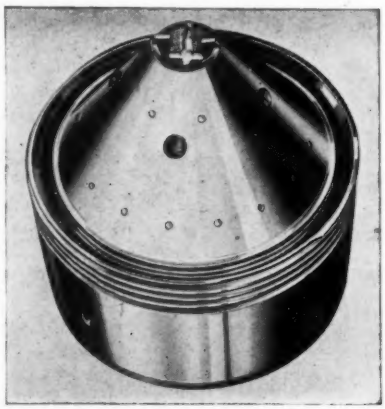
Bowls of the same capacity will be available for 100 Series machines now in use. Cold Milk Separator bowls, whether furnished as part of a complete Separator, or separately, will be equipped with stainless steel bowl shell, stainless steel bowl top, and stainless steel discs.

Operating capacities can be increased from those given by increasing the temperature of the milk. Capacities up to the regular rating of the machines at 90° F. are possible; that is 11,000 pounds per hour for the No. 292 or 192 models; 7,000 pounds per hour for the No. 272 or 172 models. However, the length or run with the Cold Milk Separator used at higher temperatures will not be as long as when regular "Air-Tight" Bowls are used, due to the fact that the sediment-holding space in the Cold Milk Bowls is not so great.

**Main Features Outlined**

1. The De Laval Cold Milk Separator separates milk at temperatures as low as 40° F.

2. The efficiency of the Cold Milk Separator is the same as that of De Laval Hot Milk Separators on runs of comparable length. When operated at 40° F., at recommended capacities, the



Cold Milk Separator will separate milk to .01% by Babcock Test.

3. The Cold Milk Separator will separate cold milk without buttering or plugging of the bowl with heavy cream.

4. It will produce cream containing as low as 23% butterfat.

5. The viscosity of the separated cream will be especially high.

6. The Cold Milk Separator will separate milk at any temperature over 40° F.

7. Bowls of the Cold Milk Separator are interchangeable with bowls now in the field.

●

### *Pest Controler*

A PORTABLE, electric-steam-vaporizer that works automatically is claimed by its manufacturers to be most thorough and inexpensive for pest control for dairies, hatcheries and farms.

Hydro-Mist, as the vaporizer is known, holds 44 ounces of insecticide and dispels the solution at its maximum striking power under heat and pressure. One filling will treat a mimium of 500,000 cubic feet.

Hydro-Mist solution, or an approved insecticide, is safe for all warm blooded animals yet is lethal to flies, moths, gnats, mosquitoes, silverfish, roaches, beetles, bed bugs, ants and other similar insects and pests.

This new pest exterminator weighs a little more than 8 pounds and needs only to be filled, plugged into an ordinary electric socket, and the time clock and thermostat set – the remaining operations are automatic.

Hydro-Mist has been field tested in chains of super markets, industrial and agricultural operations.

Hydro-Mist is manufactured by the Hydro-Mist Division of Tempo Industries, Inc., 531 State Street, Glendale, California and retails for $59.50.

●

### *New Milk Strainer*

GEUDER, Paeschke & Frey Company of Milwaukee has added a new milk strainer to its Cream City line of dairy utensils. Like other utensils in the line, the strainer is of seamless, solderless construction with four features of design that help the dairyman produce cleaner, higher-grade milk.

The top edge of the strainer has a wide flange which makes the strainer easy to lift and makes unnecessary the side handle which may be a dirt collector. The bowl is streamlined for fast straining and easy cleaning, and the base is contoured to fit mouth of milk cans to prevent accidental tipping. Baffle and disk holder has a round welded handle with smooth, sanitary joints, and the edge of the baffle is smoothly rounded so that it will not cut the filtering disk.

The strainers are made of heavy-gauge steel, tinned and retinned, and are available in both 14 and 18 quart sizes.

●

### *Insect Paint*

THE TYKOR DIVISION of the Borden Company is introducing a new insecticidal white wall coating, called "Tykor Insecto-White." The new product blends the potent insect-killers,

toxaphene and chlordane. It was developed to offset the increasing resistance of flies to DDT, according to the manufacturer.

Tykor Insecto-White is the result of several years of study. The former Tykor product, "Insecticidal White," first appeared on the market about three years ago and used DDT as the toxicant. As the DDT-resistant fly developed, Tykor researchers began to experiment with other toxicants. Their work led to the selection of toxaphene and chlordane, both of which have been proved highly effective against insects plaguing the farmer, especially the DDT-spawned "super-fly."

The blend of toxaphene and chlordane gives the new Tykor product a long lasting insect-killing power. Insecto-White is an insecticidal white coating for use on interior surfaces of barns, poultry houses, dog kennels, and other farm buildings as well as certain industrial structures. It not only kills off insects but also provides an attractive and sanitary white coating which adheres strongly and lastingly to the usual types of interior surfaces. It will not chip or flake off.

A 55-pound unit of the product is mixed into 22 gallons of water. One gallon of the finished mixture covers each 100-110 square feet of surface area.

•

### *Washing Compound*

DICAN, A NEW mildly acid type can washing compound for control of milkstone in cans and scale formation in can washers, recently has been introduced to the dairy industry by the Diversey Corporation, Chicago.

Carefully formulated to produce excellent cleaning results under a wide variety of conditions, Dican is adaptable to all types of can washers, according to the manufacturer.

Dican rinses freely and quickly from cans – minimizes drag out. Powerful penetrating action resulting from low surface tension, plus dispersion of removed residues in foam largely account for Dican's performance as a cleaner.

•

### *Milk Cooler*

A NEW FRONT-OPENING Milk Cooler that practically eliminates the back breaking, lifting of heavy milk cans and permits users to "slide" them through wide-swinging doors has been announced by the Globe Milker Company, Des Moines, Iowa.

The unit has an aluminum exterior and a choice of either aluminum or stainless steel interior. It employs the water spray method of cooling.

According to the manufacturer's operating instructions, the user covers the floor with water, to a depth of 6½ inches. The refrigeration unit is completely automatic. A built-in pump draws the icy water off the floor of the cooler and sprays it on to the cans. The pump is controlled by an automatic timer and automatically shuts off when proper temperature is reached.

The Globe Grand Champion Cooler brings milk temperature from 98° to below 50° Fahrenheit in less than one hour.

The Globe Cooler is available in 2, 4, 6, 8, 10 and 12 can sizes. Complete information can be had by writing to Globe Milker Company, care this publication.

### STREAM POLLUTION

*(Continued from Page 23)*

remaining dairy wastes. If the present statutes were enforced to the letter, they would cripple the entire state and present impossible problems to the municipalities. Many mills would be forced to close and most of the dairy plants would have to follow suit. These days in a dairy plant you cannot obey the sanitary laws without using lots of waste."

More and more of the larger dairy companies are carrying on experiments and dairymen hope that in the near future some way out will be found that will not be too expensive.


*Cut*

**DOWN BOTTLE BREAKAGE**

***Use Superior SQ Crates with wood center-posts***

**Available for Standard or Cream Top square bottles. No glass-on-glass contact at filler or on trucks. Wood posts guide bottles into pockets without shoulder-to-shoulder contact.**

***WRITE** for information on the complete SQ Line and for catalog of all Superior Metal Dairyware products.*

**SUPERIOR METAL PRODUCTS COMPANY**

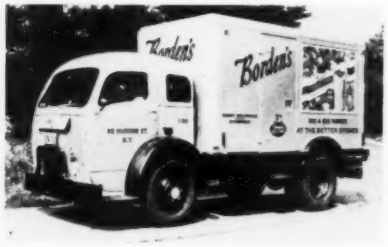
JOHN WOOD MFG. Co. FOUNDED 1867

***509 Front Avenue • St. Paul 3, Minnesota***

### *New Kind of Truck*

A FUNDAMENTALLY NEW design in motor trucks, known as the White Super Power 3000 series, is announced by The White Motor Company of Cleveland, observing its Fiftieth Anniversary as a truck manufacturer.

Most striking feature of the new line of trucks is a power lift cab, which provides complete accessibility to mechanical parts in less than 30 seconds at the turn of a key.




In addition to time-saving in traffic, due to its shorter wheel-base, overall length, and turning radius, the 3000 provides a curb-level step and roomy cab with no floor obstructions. Wide doors aid the movements.

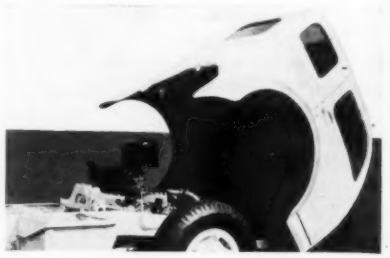
The forward position of the cab permits a new scientific load distribution, with more of the weight carried on the front axle. To take full advantage of this, a heavier capacity front axle is used, with improved steering geometry.

The shorter wheelbase and overall length, combined with a wide-tread front axle, makes the 3000 extremely maneuverable in traffic and easy to park in restricted dock and delivery areas. In fleet operations, the savings in garaging space required is an important item.

A turn of a key lifts the cab, under power, through a wide arc, tilting forward. The actuating mechanism is a rugged adaptation of the device used on newest transport planes to operate the landing gear.

The functional design of the 3000 takes into consideration another important factor that contributes to economical truck operation – the matter of depreciation. The functional design of the 3000 eliminates style obsolescence. The cab structure is completely bonderized for longer life.

The new 3000 Series is now in production in three models with options that make it adaptable to a wide range of truck services.



"We realize that the uniqueness of the power-lift will probably make the first impression on the public, because it is a dramatic improvement," President Robert F. Black said. "Actually, however, it is only one of several equally important features, all of them interdependent.

**Don't Let RUST Eat Into Your DAIRY PROFITS**

**Rust ruins your dairy equipment, cuts your profits! But now you can stop THAT — quickly, easily, cheaply. Just apply R-10-X to rusted utensils, equipment, fixtures. It stops further advance of rust, actually changes the rust into metal, and forms a prime coat for painting.**
**R-10-X has been proved in one of the nation's greatest testing laboratories, and on one of America's biggest bus lines. Try a gallon now before you paint. Don't let rust rob you another day. Gallon covers 600 square ft. Costs only $7.95 — saves you hundreds of dollars.**
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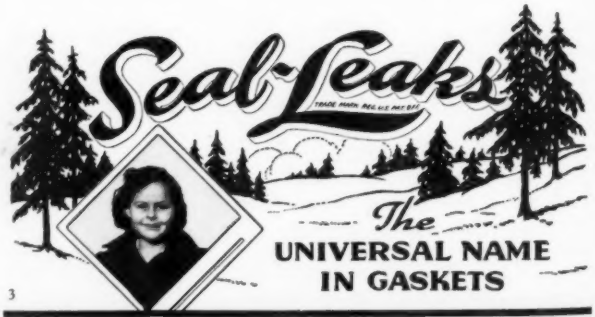
**R-10-X**

ONE of *Seal-Leaks'* most appreciated features is our unique Unit-Container system of packaging them.

The Unit is a single sanitary box of 250 – four to the carton of a thousand – forty to the case of 10,000. If you open only a-unit-at-a-time, the neostyle Unit boxes keep the unused gaskets always clean and sanitary.

And the secret? Stock up safely — fewer orders — less bother — less danger of running out! In daily use in the best plants coast-to-coast, and **they're good!**

***Ask your Jobber for SEAL-LEAKS by Name.***




3

**BEAVERITE PRODUCTS, INC.**
**Beaver Falls, New York, U·S·A·**

## BERLIN AIRLIFT

*(Continued from Page 12)*

firing and stunting Red planes described them as minor irritations. Both pilots emphasized the fact that the whole trick was in following a prescribed pattern from the time they climb into their planes until they were home again.

That pattern was simple until one remembers that it involves a skyful of airplanes moving at better than three miles a minute. Tempelhof, the major American airfield in Berlin, would radio the number of planes that could be handled by them during the day. They would also send out to Rhein-Main and Weisbaden the exact times at which they were to dispatch their flights. The distance from Rhein-Main to Tempelhof is two-hundred and seventy-eight miles. Once underway the loaded planes flew at a set speed of one hundred and seventy M.P.H. from which they did not deviate unless forced to by some extreme emergency. The course they took was as pat and unbreakable as if they were rolling along a railroad track. At a prescribed juncture point they met planes flying out of Weisbaden and together they fell into one straight, chain-like line, three minutes flying time apart.

As they arrived at Berlin they had one chance, and one chance only to land. If they made a poor approach on Tempelhof or if they were forced off course for any reason they could not circle the field and try again. There was no time. If the pilot missed this first chance he had to keep on going and fly back to the American zone where he landed and waited until such time as he could be fitted into the pattern again.

After landing at Tempelhof the planes were unloaded by Germans or by D.P.'s. Usual loads weighed twenty tons. Record unloading time was three minutes. Once unloaded the plane took off immediately. Usual pattern was for one plane to be taking off as another was landing. It was this unbending precision which made possible the success of the airlift.

More than all the Russian tricks and all the overloaded planes and overtired men, the weather proved the greatest enemy to the flying life-line. One fifth of every hour flown was done under what the Air Force glibly termed as instrument conditions. All the know how of radar and electronics experts of the Air Force was centered on how to get enough planes through weather that in normal times would ground everything. This was accomplished just before the really tough winter weather set in and made possible the continuation of the "Luftbrucke" without a day's interruption, in spite of intense fog and heavy snows.

A grim footnote to this operation comes in the reckoning of its cost. Over $150,000,000 was spent by the U. S. Air Force, U. S. Navy and the RAF in keeping the airlift going. More than fifty lives were lost during the eleven months it operated. If it is any solace to the families of those fifty-odd men then let them turn to an ever grateful two and half million people who give thanks for the mighty effort that kept them supplied as milk flew on the Berlin airlift.

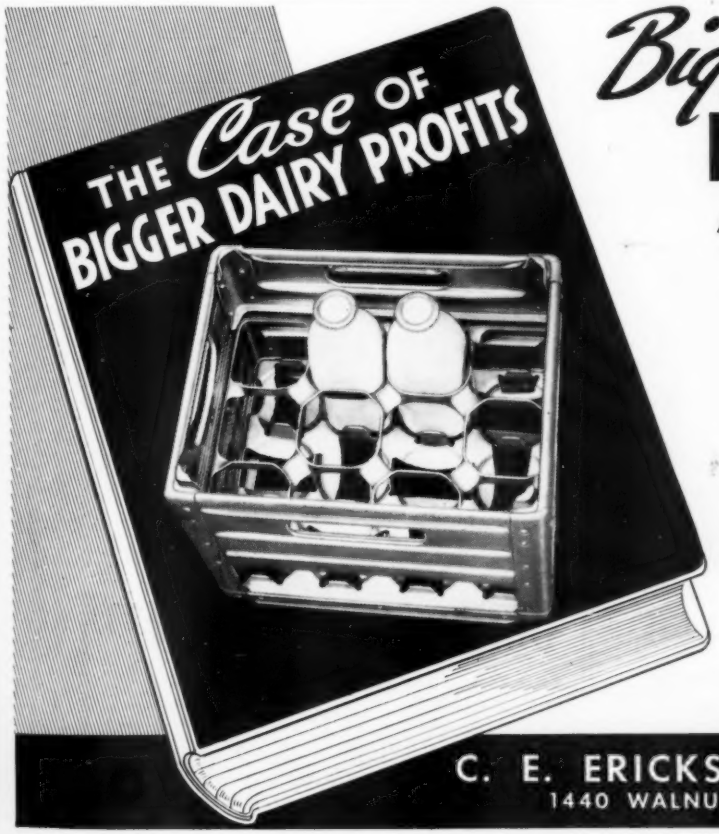
●

## GREEN PASTURES

Enrollments for the 1949 Green Pastures Program in Massachusetts are way over the top according to Ralph W. Donaldson, extension agronomist at the University of Massachusetts.

In 1948, 536 farmers enrolled. On May 1st this year the enrollment was 659 and by May 4th it had jumped to 715. Last figures on enrollment which remained open until May 15 are not yet available but it was expected that the 800 mark would easily be broken.

The increase in the Green Pastures Program, says Donaldson, indicates that the program is providing farmers with some helpful information. It is designed to aid farmers in producing a full summer supply of pasture and more pasture-like feed for winter use.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**May we give you all the facts?**
**Write today**

C. E. ERICKSON COMPANY, INC.
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# Out of the Holding Tank

**Tisomingo, Oklahoma**

Purchases of Grade A whole milk in Johnston county by the Colvert Dairy are being doubled, according to an announcement by Raymond Colvert, Jr., of the Ardmore firm.

Addition of the new truck to the new Grade A route will account for another 5,000 pounds of milk purchases per day, he said.

●

**Milwaukee, Wisconsin**

Repeal of the ordinance fixing fees on Milwaukee dairies to cover costs of municipal milk inspection was asked of the common council in a letter from the Milwaukee milk dealers group.

Present fees provide more than enough to cover inspection costs and constitute a discrimination because they apply only to dairies within the city limits, E. E. Grosz, chairman of the group, said in the letter. He said the group represented 11 Milwaukee dairies. About 20% of the milk used in Milwaukee is processed outside the city, he said.

A fee of $15 on each vehicle used in wholesaling and retailing milk in the city was suggested as an alternative to the present schedule of fees of .022c per pound of milk and .11 of a cent per pound of cream. The present fees were set up in an ordinance passed last November.

●

**Fresno, California**

Construction has been started on a new $150,000 plant for the Producers Dairy Delivery Company on a corner site in Fresno, California. The one-story brick building will have 125 feet frontage on Belmont Avenue and 130 feet on Safford. It will provide quarters for the milk firm's processing plant, delivery and truck departments, offices and a retail store which will be located on the corner.

The building will cost about $75,000 with equipment representing the remainder of the investment. Work is expected to be completed early in June.

●

**Fort Scott, Kansas**

The Dairy Queen Ice Cream Company, Fort Scott, Kansas, will erect a retail ice cream store there. The building will cost approximately $1,500, and will be a frame structure with plate glass front, and concrete floors.

●

**New Haven, Connecticut**

C. Raymond Brock, president and general manager of the Brock-Hall Dairy Company, attended a special session of the public relations committee of the Milk Industry Foundation in Chicago recently.

The meeting was called to discuss the establishment of a public relations program for the benefit of the fluid milk industry. It was followed by a conference of executive's of the Dairy Trade Association.

Brock was honored by the receipt of the annual award of the Dairy Club of the University of Connecticut for out-


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Don't take chances with your Cherry-Burrell equipment! Lubricate with Dari-Lube oils and greases, the best insurance against costly breakdowns, repairs or replacements.

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standing service to the dairy industry. His portrait will be hung in the university's dairy building.

●

**Ponca City, Oklahoma**

Installation of stainless steel equipment and electric motors, running into the thousands of dollars, is being completed at the Mid-West Creamery Company, Union Street and Cleveland Avenue.

In a remodeling program that began more than a year ago and will continue for some months yet, Mid-West is changing many of its processes to newer, more sanitary methods as well as materially increasing the efficiency and capcity of the plant, R. L. Wisler, office manager stated.

●

**Bedford, Indiana**

Alterations at the Bedford Dairy are under full swing now with the delivery of new type milk bottle hooding equipment which will complete a series of improvements to give Bedford Dairy milk complete sanitary protection, according to C. L. Wood, manager of Bedford Dairy.

●

**Pt. Huron, Michigan**

Creditors of the bankrupt Johnson Milk Company, which still operates a plant at Deckerville and formerly operated a plant at Bad Axe, are asked to accept a new plan for payment of notes, given July 6, 1944, for five years.

Creditors include many farmers in Huron, Sanilac and Tuscola Counties, who delivered milk to the plants before the company went into bankruptcy by voluntary petition of its owner, George A. Johnson.

The plan provides for lower annual principal payments and reduction in the interest rate. The creditors' committee says it believes the company will be able to pay the balance owed the creditors within the next five years.

●

**Indiana, Pennsylvania**

A former Indiana resident has expanded his business in Blairsville. Martin Fausold, son of Dr. Fausold, former President of Indiana State Teachers College, has been owner of Fausold Dairy in that town for several years.

Transfer of the retail and wholesale milk business of W. C. Griffin became effective as of March 1, when the routes and trade were assumed by the Fausold firm. Mr. Griffin has operated the Grandview Dairy Farm a long time with many customers in Blairsville and vicinity. The addition of these to the Fausold Dairy makes it one of the largest milk distributing services in the district.

**Newton, Kansas**

The Newton Dairy Products Company, Newton, Kansas, owned and operated by Walter A. Lantz and Harold Rogers, was sold recently to Layne Lairmore of Newton and Dick A. Morris, of Wichita, Kansas. Change of ownership became effective May 1. Mr. Lantz and Mr. Rogers had operated the business 12 years, during which time the company expanded until it now distributes dairy products to approximately 1,000 retail and wholesale customers in the Newton area.

●

**Wolcott, New York**

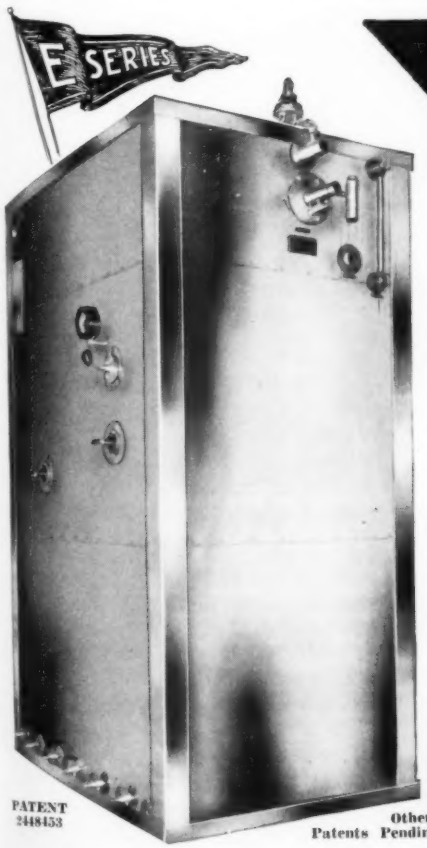
The Sodus Creamery Corp. has begun operations in its new $75,000 addition Raymond Hallett, manager reports.

The new building, constructed of glazed tile inside and out, embodies the latest features for the sanitary handling of milk. Facilities include a tank truck room, receiving room, pasteurizing room, testing room, city can washing room, cold room, and a new sour cream room.

●

**Johnstown, Pennsylvania**

Purchase of the Stanley Nipps dairy interests in Nanty Glo by Alwine's Dairy, Somerset Pike, was announced by Wilbert Alwine, manager of Nanty Glo.


Non-Mechanical Built-in Agitation in
"King Zeero" ICE BUILDERS
THE NEW STANDARD IN SWEET WATER COOLING

- **EXTRA ice making capacity for same floor space as formerly.**
- **EXTRA efficient ice making ability.**
- **EXTRA efficient flash cooling effect.**
- **EXTRA efficient ice melting.**

The extra permanently fixed louvre system in all the water passages welded to the coils and tank makes possible the added capacity and efficiency, without making the passages smaller or the outside dimensions larger.

***Write for Bulletins Nos. 74-E and 95.***

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# MARKETING ORDERS

### *Cincinnati, Ohio*

The U. S. Department of Agriculture announced its decision to provide a special pricing provision for milk made into cheddar cheese or butter in the Cincinnati, Ohio milk marketing area. The provision would amend the Federal order regulating the handling of milk in the area so as to provide a lower price during any month when the total supply of milk delivered by producers exceeded the market uses of Class I milk (fluid milk) and Class II milk (fluid cream) by 40 percent.

The special price would be approximately 35 cents per hundredweight less than is now being paid for milk for these uses, on the basis of 4 percent butterfat content.

A recommendation for such action was issued by the Department March 21 for the comments and criticisms of interested parties in the area. Two changes proposed in the recommendation were not included in the decision as announced. Exceptions filed to these proposed changes indicate that another public hearing should be held to consider further the issues involved. The changes were first considered at a public hearing February 10 and 11 in Cincinnati.

### *Clinton, Iowa*

Prices of Class I milk in the Clinton, Iowa, milk marketing area have been brought into line with those of the nearby Quad Cities market by an amendment to the Federal order regulating the handling of milk in the area, the U. S. Department of Agriculture announced.

The action was taken to relieve the milk shortage which occurs in the Clinton market during the fall months of lowest supply. In the past, milk produced in the Clinton area has been drawn to the Quad Cities market by more favorable prices offered to producers during these months.

One of the changes under the amendment provides increases in the price differential for Class I milk paid to milk producers over the basic price as computed by the pricing formula now in effect under the Federal order. The former year-around differential of 70 cents per hundredweight is unchanged for the months of April, May and June, but an increase to $1.15 becomes effective, August through December, with the differential dropping back to a level of 90 cents for January, February and March.

A second change deletes from the existing Federal order a seasonal pricing plan under which certain deductions are made during the months of May and June and added back during the months of September, October and November. The two changes make Clinton producer prices approximately equal to those in the Quad Cities market.

### *Philadelphia, Pa.*

Increases during April, May, and June 1949 in the allowance to milk handlers on Class II milk in the Philadelphia, Pennsylvania milk marketing area, and a seasonal change in minimum prices to producers on Class II milk, were authorized in an amendment to the Federal order regulating the handling of milk in this area announced by the U. S. Department of Agriculture.

The increases in handlers' allowances include (1) an increase of 1 cent per hundredweight to offset higher transportation costs for milk plants 31 miles or more from the Philadelphia market; and (2) a seasonal increase of 5 cents per hundredweight for all handlers in the area during April, May, and June to encourage the utilization of larger quantities of milk during these months of heavy production.

The seasonal change in minimum prices to producers establishes a price about 15 cents per hundredweight below the regular Class II milk price paid to producers for all milk used in butter, cheese, evaporated milk, and milk chocolate during April, May, and June. This change also is intended to encourage handlers to handle the larger quantities of milk produced during these months.

The amendment also requires handlers to give preference in Class I during July, August, and September to milk produced by dairy farmers regularly supplying the Philadelphia market. The Federal order already carried such a provision applying to the months of April, May and June.

### *Lima, Ohio*

The U. S. Department of Agriculture recommended that a Federal order be issued to regulate the handling of milk in the Lima, Ohio, milk marketing area. The Federal order, requested by milk producers supplying the Lima market would establish minimum prices to producers, pool the returns to producers, and require handlers to pay producers the minimum prices.

Heretofore there has been no Federal order for the Lima area, although orders are in effect for the nearby Dayton-Springfield, Toledo, Cleveland, Columbus and Fort Wayne milk marketing areas. The order would set minimum prices only for locally produced milk approved as Grade A quality since local health regulations require that all milk sold in the form of fluid milk, fluid milk drinks and fluid cream be made from Grade A milk.

Need for the Federal order was established at a public hearing November 15 to 19 in Lima. The hearing was held to consider a proposal for market regulation submitted by milk producers supplying the Lima market. Today's recommendation by the Department is based on the hearing.

The Federal order recommended for the Lima area would stabilize prices paid to producers by establishing minimum prices appropriate to the use made of the milk and the supply and demand conditions affecting the market. Present prices paid by milk dealers to producers apply to all milk without regard to the use made of the milk.

### *Duluth-Superior*

The U. S. Department of Agriculture announced its decision to maintain during May through August, 1949, the current price differentials used in computing minimum milk prices to producers in the Duluth-Superior milk marketing area. Before the change can become effective it must be approved by two thirds of the producers in the area.

The existing Federal order regulating the handling of milk in the Duluth-Superior marketing area provides for a decrease in price differentials, May through August, or 40 cents per hundredweight for Class I milk and 25 cents per hundredweight for Class II milk from the differentials in effect during the other eight months of the year. The Department's recommendation would maintain the differentials, May through August of 1949, at the same levels prevailing during the other months.

The price differentials are additional amounts added to the basic price for milk as computed by the pricing formula

in the Duluth-Superior Federal order and are used in establishing the minimum price levels to be paid producers for Class I and II milk. Class I milk in the Duluth-Superior area is chiefly fluid milk, while Class II is largely fluid cream.

### *Tri-State Area*

The U. S. Department of Agriculture announced its decision to change the method of pricing milk to dairy farmers in the Tri-State (Kentucky-Ohio-West Virginia) milk marketing area so as to (1) prevent major contra-seasonal price movements and (2) encourage milk production at a level appropriate to the demands of the marketing area. Before the changes can become effective they must be approved by two-thirds of the producers in the area.

No immediate change in price would result from the changes, Department officials state. The Tri-State area includes the city of Ashland, Kentucky; Huntington and Parkersburg, West Virginia; Marietta, Ironton, and Gallipolis, Ohio; and the Ohio counties of Athens and Sciote.

The pricing provision to prevent major contraseasonal price movements would amend the Federal order regulating the handling of milk in the area so as to prevent Class I and Class II milk prices in April, May, June and July from being higher than those in effect for the preceding March. It also would prevent such prices in October, November, December and January from being lower than those effective in the preceding September.

The price provision to encourage an appropriate level of production would provide for a price increase of 25 cents per hundredweight on Class I and Class II milk, October through January, if the milk supply in the area during the 12 months ending with the preceding August was below the point where the amount of producer milk in "surplus" or Class III milk averaged less than 12 percent of the total amount delivered by producers.

The provision also would provide for a price decrease of 25 cents per hundredweight on Class I and Class II milk, April through July, if the milk supply at the point where the amount of producer milk in Class III milk averaged more than 18 percent of the total amount delivered by producers.

The Tri-State area utilizes milk chiefly for the fluid milk and cream trade with milk in excess of these needs going into "surplus" or Class III uses. Class I milk in the area consists chiefly of fluid milk, skim milk and flavored milk drinks, Class II is largely cream and buttermilk, and Class III includes all milk used in manufactured dairy products and other uses.

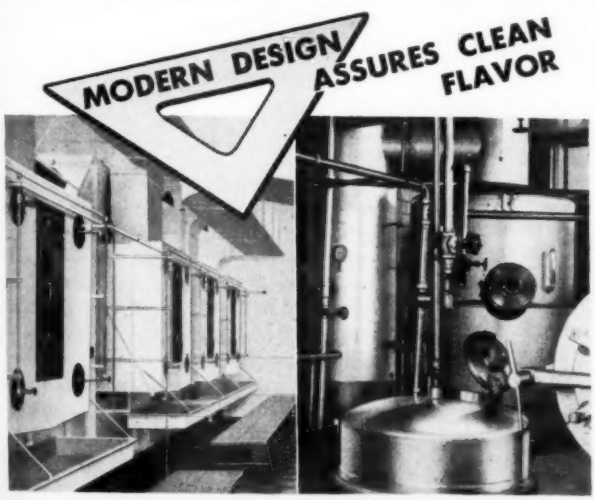
### *Northeast Markets*

A lower price for Class II milk was established in the milk marketing areas of Boston, Lowell-Lawrence and Fall River, Mass., effective May 1, 1949, by amendments to the Federal orders regulating the handling of milk in the three areas, the U. S. Department of Agriculture has announced. The change will reduce the cost of Class II milk to handlers by 10 to 13 cents per hundredweight.

Class II milk in the Boston, Lowell-Lawrence and Fall River milk marketing areas consists chiefly of milk going into fluid cream and manufactured dairy products.

Department officials state that the change was made to avoid pricing milk handlers in the three areas out of their normal markets for certain Class II milk and milk products. Any substantial loss of these markets would reduce the outlet for seasonal surplus milk delivered by milk producers in the three areas during the next few months of heavy milk production.

Under the amendments, the pricing formula for Class II milk has been changed for each of the areas.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It's MULTIPURPOSE—disinfects, deodorizes, sanitizes—used throughout the dairy industry.

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# North of Forty-Nine

## A PAGE DEVOTED TO THE DAIRY INDUSTRY IN CANADA

### MORE MONEY — LESS MILK

**Manitoba Board Reports Production Down But Dollar Value up for Milk**

Winnipeg, Man. — In the report of the Manitoba Milk Control Board recently tabled in the legislature it is noted there was a decrease of more than 8½% in the volume of milk from licensed producers and producer distributors, in the Greater Winnipeg area, but the total money value was up by 12½%.

Total milk sales for this area were 107,624,000 pounds, which was more than four million pounds less than the year previous. Of this amount 97.5% was sold pasteurized, 2.5% as raw milk. Of the consumer's dollar, 64.6 cents went to the producer; 35.4 cents to the distributor. The percentage has been gradually changing since 1933 when only 46.78% went to the producer.

The lack of reasonably uniform production continues to be a problem according to the board's report. The percentage of producers below their quota has varied from 73% in Nov. 1947 to 2.3% in June 1948.

Some 29 herds and quotas were taken over by producers already shipping and another twelve were taken over by new producers. Apart from these there were 74 other producers who went out of the milk business for various reasons. There were 1200 milk shippers in the Winnipeg milk shed.

At Portage la Prairie the purchases from local producers amounted to 2,525,000 lbs., a decrease of 6.15% from the year previous. Portage la Prairie does not produce enough milk to supply its requirements and for nine months of the year milk had to be imported. In all 150,000 lbs. was imported. Pasteurization is compulsory in Portage.

In the Brandon area 6,835,000 lbs. was bought from producers. This is a drop of 5.6% from the year previous. Only half of one per cent is sold as raw milk at Brandon. There were three price increases during the year. During five months of the year it was necessary to import milk amounting to 450,000 lbs.

Neepawa also comes under the board and the amount purchased from producers was 649,000 lbs. a decrease of 9.75% from the year previous. Neepawa also has compulsory pasteurization.

It is noted in the report that while total deliveries to pasteurizing plants in Manitoba were down 7.4% for the year, it is 68% greater than in 1933 the first year of control. About half as much milk is sold through the stores as is delivered by wagon.

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### POOR SANITATION

Sarnia, Ont.—Existence of an "unsatisfactory and potentially dangerous situation in milk sanitation" in six out of seven district dairy plants was noted in the annual report of Dr. Gordon Anderson, medical officer of health, and director of Lambton Health Unit.

Dr. Anderson said that with a single exception, "all pasteurizing plants in the area have frequently far exceeded the recommended standards for bacteriological counts."

He added: "It should be clearly understood that at no time could the milk of any dairy be clearly labelled unsafe, but that at almost all times, potential danger must be considered to exist."

In the area covered by the local unit are seven pasteurizing plants licensed by the Department of Health. Three in the City of Sarnia, two in Sarnia Township, and two in Brigden.

Six rural schools in Sarnia Township and seven in Moore Township still are dependent on heavily polluted water supplies for drinking purposes, it was revealed in the annual report of Dr. Anderson.

### TRUCK TOPPLES

Hundreds of bottles of milk were shattered when a driverless truck rolled down a hill in Toronto, slid into a ravine and turned over.

Police said the driver, Cecil McMartin, had parked the truck and put on the emergency brake before making a delivery. When he came out of the house his truck had vanished. It had rolled about 200 feet down the roadway and then plunged about 40 feet down a steep embankment. The truck struck a tree and upset.

### PRODUCER FIGHT AIRED

**Faction in Toronto Association Would Oust Its Leaders**

Toronto, Ontario — The "bootleg milk" question was red hot again when the Milkshed Association, a dissenting faction within the Toronto Milk Producers Association, met in Brougham recently. The factions leader L. R. Jolly, however, spoke of it only as a side issue, with the primary purpose of cleaning up the Milk Producers Association and ousting W. H. Wilmot, secretary manager.

Packed with over 200 milk producers from Halton, Ontario, Peel York and Victoria counties, the small Brougham town hall rattles with such vindictives as "liar, dictator, slaves."

Originator of the "bootleg milk" phrase, Jolly charged Wilmot with being a dictator.

"He's more a friend of the distributor than the producer," Jolly said. "He's a dictator and nobody knows what's going on."

"Do you want his job?" somebody asked from the back of the hall.

"Mister, that's up to the farmers," Jolly replied.

Jolly charged that Wilmot had sold the producer down the river. Dairies have been obtaining the untested milk from cheese factories under their control, he said, adding that the untested milk went back into competition against the farmers.

This is the biggest thing you have ever stumbled across, he told the farmers. You have been sold down the river. He was referring to Mr. Wilmot and the executives of the Milk Producers Association.

Jolly warded off sharp questions from the back of the hall. "How did the bootleg milk come in?" he was asked. "It came in under the sanction of the Board of Health," the questioner answered himself.

"The Board of Health didn't have the right to pass it because it came from uninspected barns." Jolly countered.

Chairman George Todd, president District No. 4 Ontario Milk Producers Association, asked Mr. Wilmot if he would like to defend himself.

Wilmot stood quietly at the back of the hall. The crowd at high pitch, cut into his refusal to speak.

"I wasn't invited to this meeting. I don't know that I would like to speak to this crowd. I am responsible to the board of directors. They can get rid of me whenever they wish."

Unexpectedly William Hoyle, president of the association, walked to the front.

"I consider that I'm on trial as well," he said. "You blame Mr. Wilmot for everything but he does his work with the agreement of the board of directors.

"I'm not mincing words. Mr. Jolly is a self-styled successor to Mr. Wilmot."

"I can't be bribed and I don't drink. Mr. Wilmot is not a friend of the distributor. Jolly said he wants you to get together and see eye to eye with him."

Denying undemocratic charges, Hoyle reminded the crowd they could get other officers whenever they wished.

He said the requirements for secretary-manager's position were high and said Jolly was not the man for the job.

"How long have you been on the farm?" he asked Jolly. "Four years? Correct me if I'm wrong."

Jolly said Hoyle was wrong but after a long preamble didn't give the exact number of years.

Arthur Spooner, a milk producer supporting Jolly's campaign to oust Wilmot, said the secretary-manager "lied" and offered veiled threats of a producer's strike to obtain a one-price standard.

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### DENY APPLICATION OF UNION

An application by the Canadian Dairy Employees Union for certification as bargaining agent for 400 odd Silverwood Dairy workers in Toronto was turned down by the Ontario Labor Relations Board.

The board ruled the union, formerly the Silverwood Employees Association, has changed in name only, not in entity. As a party already to a valid collective agreement with the company, it did not require certification.

### THREATEN QUEBEC MARKET
### Quebec's Milk Exporters Face Loss of BWI Market

Montreal, Quebec — The high prices which Quebec milk manufacturers have to pay farmers for supplies of milk, threatens Quebec with total loss of her export business in sweetened condensed milk and evaporated milk with the British West Indies, Jose de Montbrun, prominent Trinidad importer said recently.

"Manufacturers with milk producing plants in this province are obliged to pay Quebec farmers a minimum of $3.25 per per 100 pounds of fresh milk. In Ontario, on the other hand, farmers are paid only $2.75 per 100 pounds while in the U. S. the price is $2.40 per 100 pounds."

"The B.W.I." he said, " for the past eight or nine years have been obtaining supplies of sweetened condensed milk from manufacturing plants in Sherbrooke and St. Anne de la Perade, Quebec."

"Now, however, on account of the high price to which I have referred all this trade will now go to Holland and Australia, as prices in these countries are away below the prices at which Quebec milk manufacturers can sell."

"It is a pity," Mr. de Montbrun observed, "that this very lucrative business which is now amounting to about $5,000,000 annually, and increasing, will be lost to Quebec which formerly held the BWI market exclusively.

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### DEFENDS CHOCOLATE

Toronto dairies are not seriously concerned over the suggestion that chocolate drinks may be banned in city schools. But they are concerned over the fact that emphasis is being placed on the lack of fat content in the drink.

They wonder why Dr. P. G. Jackson, MOH, emphasizes in a letter to the Board of Education that "the drink is low in fat and vitamin A content."

General managers of both Uplands and Silverwood dairies draw attention to recent reports of medical men that children do not need whole milk, that the fat content is too much for their young digestive systems.

"Why do doctors recommend skim milk?" asked Uplands Dairy. "A lot of children are raised on it. Everybody recognizes the nutriment there is in cocoa. That nutriment takes care of it in the milk.

"However," said Uplands, "we do not use skim milk alone in our chocolate. We use 50 percent whole milk and 50 percent skim, and that plus the chocolate gives a good rich drink. With more whole milk it would be too rich."

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### WILL DISCUSS OLEO

Toronto, Ont.—Premier Kennedy of Ontario said he will meet shortly with farmers and leaders in Ontario's dairy industry to "talk over the whole question of Margarine."

The conference, representing dairymen from all over the province, will underscore the concern felt by Ontario's 75,000 dairy farmers as sales of oleo mount and the consumer demand for butter decreases.

In the absence of statistics covering normal butter sales in the province, the premier declined to estimate how much farmers are losing through margarine's popularity. He would not substantiate one report that this loss would total $15,000,000 annually.

Hon. W. A. Goodfellow, welfare minister, said butter selling at 70 cents a pound was "not too high in relation to the work involved and the quality of the product. At 60 cents a pound it offers no financial protection to these 75,000 farmers and might be the difference between solvency and insolvency."

He added: "Loss of income to these farmers represents a serious economic crisis, for it reduces their purchasing power. As the price of butter drops, it puts pressure on the market to reduce the prices of all other dairy products.

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METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL SILVER and BRONZE.
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**BOX NO. ..... AMERICAN MILK REVIEW**
92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

### FOR SALE — EQUIPMENT

FOR SALE—Practically new Smith Lee B H 40 Cellophane Hooding Machine. Used 1 yr. Perfect Condition. Allegheny Creamery Inc., Jersey Shore, Pa. 5-M-2

FOR SALE — At our Warehouse and Shop we have a good selection of Pasteurizers, Coolers, Bottle Washers, Bottle Fillers, Can Washers, Storage Tanks, Heaters, Separators, Weigh Cans, Filters, Ice Cream Freezers, Homogenizers, Vacuum Pans, Pumps, etc. Save money by considering good Used and Reconditioned Equipment. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y., Telephone MUrray Hill 2-4616. 5-M

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15, Ohio. 5-M-t.f.

FOR SALE—One 100 Gallon (tin-copper) pasteurizer without agitator or motor — $35.00. One Sturdy-Bilt four row bottle washer 190 inches long and 46 inches wide with automatic discharge — $450.00. One Limex Water Softener Rectifier complete with fittings—$100.00. 65 quart cases for round bottles—@.35 each. 100 pint cases for round bottles—@.35 each. One cheese vat—$50.00. One No. 142 Air-tight separator bowl (new—has never been used)—$1000.00. All equipment listed is in good condition. Write: Studey's Sanitary Dairy, 2425 Durand Ave., Racine, Wisconsin. 5-M-3

### FOR SALE — EQUIPMENT

FOR SALE — 1 Purity Tornado Can Washer, washes 2 cans per minute. Used 1 year. Guaranteed good as new. Price $700.00. 1 De Laval E-29 Cream Separator. Used 2 months. Like New — $200.00. 1 - 4 spout Girton bottler, quarts, pints, half-pints. Good Shape, complete $100.00. 1 - 32 hour horizontal boiler fully automatic, uses Natural Gas fuel. Good Condition. Harmon Dairy. 443 West Inyo St., Tulare, Calif. 5-M

FOR SALE—Creamery Package No. 5 bottle filler and 6 cappers and 14 equal-fill valves for 48MM bottles, stainless bowl, cover and float, nickel pedestals, 1HP 3Ph 60Cy 220V motor, good condition. Used, clean 48MM economy round Quart Bottles at 2 cents f.o.b. New York City. Used serviceable standard round quart bottle cases at 25 cents f.o.b. N. Y. C. Manchester Farms, 121 E. 174th St., Bx., N. Y. C. 57 5-M

FOR SALE—Marco 200-gallon Homogenizer, new. Liberal discount. Box 141, care this publication. 6-M

FOR SALE — Cherry-Burrell No. 82M M.D. 1000 lb. churn; Also Heil bottle washer; No. 217 Mojonnier filler; Jensen 350 gallon vats; and other creamery machinery. Knudsen Creamery Co., 1974 Santee St., Los Angeles 11, California. 6-M

FOR SALE—4x4 York Ammonia, 10 HP 3 phase V belt, ¾ HP Frick Freon water cooled, with cooler fan. $500.00 for both. Toledo single can scale $200.00. All good condition. H. J. Munz, Chardon, R1, Ohio. 6-M

### FOR SALE — EQUIPMENT

FOR SALE—Good used bottle washers, can washers, cheese vats, churns, coolers, bottle fillers, heaters, hooders, ice machines, double drum milk dryers, pasteurizers, pumps, scales, separators, tanks, testers, vacuum pans, receiving vats and weigh cans. Late typed list mailed on receipt of advice as to your needs. Otto Biefeld Co., Watertown, Wisconsin. 6-M

**FOR SALE — 400 Gallon Pfaudler Horizontal S.S. Tanks, also 2000 and 3000 gallon Pfaudler Glass Lined Tanks; Cherry-Burrell Super Plate Cooler, 94 s.s. plates. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y.** 6-M

FOR SALE — One Cherry-Burrell triple dasher ice cream freezer—$475.00. Freezer can be seen in operation. Bagby filler with motor, table and three compartment hopper $325.00. This equipment was recently replaced by continuous freezer. Smith's Model Dairy, Inc., 420 S. 4th St., Hamburg Pa. 6-M

### WANTED — EQUIPMENT

WANTED—Milk plant equipment — used. Give complete information with prices. Reply box 134, care this publication. 6-M

WANTED — Portable refrigerated box, from 8'x8' or larger. Please state size of condensing unit and price FOB Brooklyn, N. Y. Sunnydale Farms, Inc., 400 Stanley Ave., B'klyn, N. Y. 6-M

Wanted to buy—Second hand quart and half pint bottles, to fit Number 2 - 56 Mil. Cap. Ronceverte Ice and Produce Company, Ronceverte, West Virginia. 5-M

### FOR SALE — MISCELLANEOUS

FOR SALE—Truck lettering and trade mark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Co., 827 So. Harvey, Oak Park, Illinois. 5-M-5

FOR SALE — Chocolate Powder and Chocolate Syrup for making Non-Settling Chocolate Milk. Your trial order will receive our prompt attention. Bradway Chocolate Company, New Castle, Indiana. 5-M-t.f.

FOR SALE—Orange-Ade Base made from fresh oranges. Nothing to add but water. $1.35 per No. 10 tin. Bradway Chocolate Company, New Castle, Indiana. 5-M-t.f.

FOR SALE—2500 quart cases with 57 mm, short stubby round bottles and 500 pint and half pint cases with bottles. Cases practically new. Write P.O. box 102, Monticello, New York. 6-M


## MFR'S REPS

Manufacturer of nationally advertised line of sanitary equipment has several openings as result of new distribution policies.

Protected territories that are now producing.

If you sell jobbers or distributors catering to dairies, bottlers, breweries or the processing industries investigate this attractive commission deal.

Non-conflicting lines are permissible, in fact, may be desirable. Our client's sales force knows of this ad.

Write giving your qualifications to Badke Advertising Agency, 161 W. Wisconsin Ave., Milwaukee 3, Wisconsin.



*Better* **DRY MILK**

**AT LOWER COST**

**DRY MILK MACHINES**

**Built in Five Sizes**

The patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs.

*Complete details upon request.*

**OVERTON MACHINE COMPANY**

DOWAGIAC MICHIGAN

## FOR SALE — MISCELLANEOUS

FOR SALE—Used milk bottle crates. Can deface old name and rebrand. Write or phone for present day inventory. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland, Ohio. 5-M-t.f.

COAL — Double screened, washed West Virginia Pea, Nut, Egg, or Nut slack. This is the coal you have been looking for. Carload Coal Corp., 55 West 42nd St., New York, N. Y. 5-M-3

ROUTE BOOKS—New - Convenient - One and Two months every other day delivery; also one and two months loose leaf route books; bottle hangers, six different styles, for getting back empties. Write for samples. BONDSON PRESS, 1479 Metcalf Ave., New York 60, N. Y. 5-M-2

## REPAIR SERVICE

THERMOMETERS — We repair Mercurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings ship your thermometers to Nurnberg Thermometer Co., 124 Livingston St., Brooklyn, New York. 5-M-11

## SPECIAL SERVICE

**COMPLETE BOOKKEEPING SERVICE—Farmers' checks and customer statements prepared. Monthly dairy reports. Financial statements. Experienced dairy auditors. Write for details, box 142, care this publication. 6-M**

## BUSINESS OPPORTUNITY

FOR SALE—Pasteurizing plant in Northern Illinois selling wholesale and retail milk, cream, butter, cottage cheese, etc. Business last year over $250,000 gross. Excellent building, equipment and trucks mostly new. Terms can be arranged. Box 143, care this publication. 6-M

FOR SALE—Grade A Pasteurized Milk Processing and Distributing Business with nearly new equipment, including 3 - 200 gallon pasteurizers and 1 - 400 gallon an hour Manton Gaulin Homogenizer. Practically new Cyclotherm fully automatic Boiler. 4 trucks in good condition. Excellent location with opportunity for plant expansion as well as business increase in fastest growing city in Western Oregon. Last year's gross sales over $163,000.00 Old age the reason for selling. Can be bought with excellent building and private dwelling. Box 131, care this publication. 5-M

## BUSINESS OPPORTUNITY

FOR SALE — Small pasteurized bottled milk and ice cream manufacturing business. This is a combination of business that has been very successful since starting in 1932. One retail milk route. 10 wholesale ice cream accounts. All good equipment and finest location in center of 20,000 population. On two main highway routes. Includes going retail food market, soda bar, and lunch business, equipment and stock. Milk is bought directly from producers. Price includes land, buildings, and all. $58,000 half cash, balance up to 10 years terms. Requires two men and three women to operate at present volume. Excellent opportunity for partners or for large out of town ice cream manufacturer who would like solid foot hold in this area. Coles Dairy and Food Market, Sayre, Pennsylvania. 6-M

**FOR SALE — Cheese Factory, Upstate New York, around 15,000 lbs. in flush. Equipped with vats, agitators, filter, electric separator. Box 132, care this publication. 5-M-2**

## POSITION WANTED

Employed young married man with college degree and wide experience in plant management in manufacturing and bottling in both glass and paper. Fully experienced in all phases of Pure-Pak operations, and selling and handling of Grade A and manufacturing milk and milk products. Can manage or operate a plant, a company, a department or a district of several plants in any capacity desired by employer. Can do field work or supervise large or small operations in field work on procurement, farm production and quality as well as receiving. Can set up quality and laboratory control. Successful in maintaining equipment and in handling men. Desire different location, best of references. Salary reasonable. Box 130, care this publication. 5-M

## HELP WANTED

HELP WANTED — Factory Representative wanted for a manufacturer producing a quality line of Cold Mix and Hot mix Nonsettling Dairy Chocolate syrups and Chocolate Dairy Powder. Also Dairy Bases for making Orange - Grape - Coffee - and Strawberry Flavored Dairy Drinks. Choice territories available for reliable salesman. Liberal profit-sharing basis, repeat volume business; can be handled as a sideline. Our employees know of this ad. State line and territories covered, age and background. Replies confidential. Write Box 133, care this publication. 6-M

## HELP WANTED

HELP WANTED—Single man for milk house work on modern retail and wholesale dairy. Be able to pasteurize, make buttermilk and cottage cheese. Must be non-drinker. Board, room, laundry, and top wages for good man. The French Dairy and Produce Company, Superior, Montana. 6-M-2

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## TELLING-BELLE-VERNON

*(Continued from Page 8)*

January of 1947 but has all ready achieved some important results.

It reveals the producer who does a good job at producing and cooling milk with a good raw count but who allows contamination to occur through some carelessness. Such milk gives a high laboratory pasteurized count and calls for a visit from a fieldman.

The old program was based on a plate count of the raw milk. Farm visits were made if the count went over 200,000. Sometimes a fieldman was unable to locate the trouble with the information that was available.

Under the new system a microscopic clump-count of 200,000 does not result in a visit if the laboratory-pasteurized count is satisfactory and if a problem is not revealed by platform inspection.

It has been found that when a fieldman now visits a farm as the result of some difficulty revealed by the laboratory program, he is always able to find some serious defect in the procedure being followed. Thus, he is able to help the producer produce a high quality product.

There is no end to this battle for quality. The word of the Telling-Belle-Vernon Company is indicative of the logical trend in quality control work. The place to begin is on the farm and the place to end is on the consumer's table. In a period when the competition for the consumer's food dollar is being intensified there is nothing more important than a quality product. Feller, Beardon, and Lemon aren't the only folks that are pitching in Cleveland.

SAVE TIME . . . SAVE MONEY!

STAINLESS STEEL is the ideal metal for milk plant equipment. Chemically inert to all dairy products, stainless steel does not affect color, odor, or flavor. Easy to clean and rust resistant stainless steel will give years of lasting service.
We are pioneers in the design and manufacturing of stainless steel milk plant equipment. Our engineering staff is at your service — write us your requirements.

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Write for FREE SAMPLE — Make your own taste test.

THE BENJAMIN P. FORBES COMPANY
2000 West 14th Street Cleveland 13, Ohio

## THYROPROTEIN FOR DAIRY COWS

Experiments in feeding thyroprotein (iodinated casein) to dairy cows are under way in the Bureau of Dairy Industry to determine what the long-time effects of the drug will be on the productivity and health of the cows.

Results to date show that milk yield may be increased over short periods by feeding thyroprotein, but the cows lose weight unless they are fed more nutrients than usual. The increased milk yield is accompanied by increased heart and respiratory activity.

In these experiments 12 cows have been fed thyroprotein for 2 or 3 successive lactations, beginning 50 days after freshening and continuing until 90 days before they were due to freshen again. All these cows had normal parturitions and all calves appear normal.

Milk production of the 12 cows during the first 50 days of successive lactations was compared with that of 3 cows that were fed normally. During this segment of the second and third lactations the normally fed cows produced 32 percent more milk than they produced during the first 50 days of their lactation, whereas the cows that had been fed thyroprotein for one or two lactations averaged only 17 percent more milk during the first 50 days in their second and third lactations than in the first lactation.

In the first lactation, the cows on thyroprotein showed an initial increase in the butterfat percentage as compared with cows on normal rations, but the increase was of significant proportions for only 30 to 40 days. After this time, fat tests were similar in both groups.

In the second and third lactations (no thyroprotein was fed during the first 50 days) the fat content was lower during the first 50 days than in the same part of the first lactation. Normally fed cows, however, showed a small increase in fat percentage during the first 50 days of the second and third lactations, as compared with their first lactation. Thus it appears that when thyroprotein is fed during a previous lactation, the fat tests in the following lactation may be lower than if thyroprotein had not been fed.

It seems justified to conclude that when thyroprotein is fed for an extended period, it must continue to be fed at least in the early stages of the succeeding lactations. On this basis, it would not be advisable for the practical dairyman to start feeding thyroprotein.

According to the Federal Food and Drug Administration feeding this product to dairy cows has no appreciable effect on the quality or composition of the milk produced.

Dairymen doing Official Testing, Advanced Registry or Herd Improvement Registry are reminded of the following ruling adopted by all of the breed associations. "The feeding or injection of thyroid extract, thyroxine or any product producing thyroidal effects to cows on official test is prohibited and evidence of its use shall be cause for cancellation of such records."

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## OWENS ELECTIONS

Carl R. Megowen, vice president and director of Owens-Illinois Glass Company has been elected Executive Vice President of the company, according to an announcement by William E. Levis, Chairman of the Board.

Mr. Levis also announced the election of Hugh C. Laughlin, Harry J. Durholt and Raymon H. Mulford as vice presidents of the company. A. H. Ahlers, Assistant Treasurer of the Company was elected to be an Assistant Secretary; and F. M. Canter, of the American Coating Mills Division of the Company was elected an Assistant Secretary.

Mr. Megowen entered the employ of the company in April, 1922, when he joined the Illinois Glass Company in the Accounting Department at Alton, Ill.

In 1930 he was named assistant plant manager at Alton and in 1932 was transferred to Toledo as comptroller. He was elected vice president and comptroller in 1939 and was made a director in 1947.

## NEW DIVERSEYMEN

Five men recently completed the Diversey Corporation's technical and sales training course and have entered various territories as field service representatives.

●

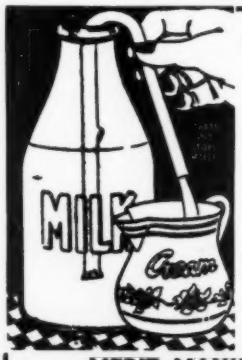
The new D-Men are: Back (left to right) E. C. Hamilton, Jack Lyon, D. E. Hegler; front (left to right) T. G. Warren, C. E. Dickens.

●

## MATHIESON CHANGES

Mathieson Chemical Corporation has made several changes in operating management due to the increase in the number of plants resulting from recent acquisitions. The directors appointed Dr. Carl F. Prutton vice president-director of operations of all the company's plants and Arthur T. Bennett, vice president, was placed in charge of the eight plants acquired from Southern Acid and Sulphur Company. R. B. Worthy and J. F. Newell were named vice presidents.

Thomas S. Nichols, president of the company, announced that Dr. Prutton, who joined Mathieson last year as director of research, will have charge of research and supervise operations of all the company's plants including those recently acquired. His headquarters will be in the Mathieson New York offices. Mr. Bennett will have his headquarters in Houston. Mr. Worthy will be in charge of the plants acquired from Standard Wholesale Phosphate and Acid Works as well as the Saltville, Va., plant, of which he has been manager. Mr. Newell remains at Lake Charles, La.

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Useful — Interesting
MAGIC CREAM SIPHONS for home use, remove cream from bottled milk to use with coffee, cereals and desserts.
PLEASE OLD CUSTOMERS — WIN NEW ONES
Leading dairy firms find Magic Cream Siphons a welcome sale booster aid. Homes using a cream siphon consume more milk when they learn how many foods are improved by the liberal use of milk instead of water in preparing.
Free sample for round or square bottles
Glass $15.00 per gross or $100.00 per 1000
Aluminum $17.50 per gross or $115.00 per 1000
Complete Satisfaction Guaranteed
MERIT MANUFACTURING COMPANY
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## OF EVENTS TO COME

**Illinois Dairy Products Association** — Annual summer outing will be held at Nippersink Lodge, Richmond, Ill., June 13 to 15. Secretary, M. G. Van Buskirk, 309 Jackson Blvd., Chicago 6, Ill.

**National Dairy Council** — Summer conference, Edgewater Beach Hotel, Chicago, Ill., June 27-29, 1949. Milton Hult, 111 N. Canal St., Chicago, Ill., President.

**Florida Dairy Industry Association** — Annual meeting is tentatively scheduled to be held in Tampa, Fla., June 30, July 1 and 2. Secretary, E. T. Lay, 39 W. Monroe St., Jacksonville, Fla.

**Institute of Food Technologists** — Ninth annual meeting to be held in San Francisco, Calif., during the week of July 10-15, 1949. Food equipment and supplies will be exhibited in San Francisco Civic Auditorium during week of convention.

**Indiana Dairy Products Association** — Annual summer outing will be held at the Hillcrest Country Club, Indianapolis, July 21. Secretary, R. A. Larson, 623-624 Board of Trade Bldg., Indianapolis 4, Ind.

**West Virginia Dairy Products Association** convention will be held August 1 and 2, 1949 at the Greenbier, White Sulphur Springs, West Virginia. John J. Slavins, secretary, 467 Chestnut St., Morgantown, W. Va.

**World Dairy Congress**—Twelfth Meeting, Stockholm, Sweden, August 15-19, 1949. Waldemar Ljung, Postbox 642, Stockholm, Sweden, Secretary.

**Cornell University**—Annual dairy industry conference will be held September 8 and 9 at Ithaca, N. Y. Prof. F. V. Kosikowsky, Department of Dairy Industry, Cornell University, Ithaca, N. Y.

**Iowa Milk Dealers Association**—Annual convention, Hotel Fort Des Moines, Des Moines, Iowa, September 14-16, 1949. John H. Brockway, 906 Walnut Bldg., Des Moines 9, Iowa, Executive Secretary.

**New York State Association of Milk Sanitarians**—Annual conference, Hotel Syracuse, Syracuse, N. Y., September 19 to 21, 1949. C. S. Leete, New York State Department of Health, 18 Dove St., Albany 6, N. Y., Secretary Treasurer.

**International Dairy Exposition, Inc.** — First annual International Dairy Exposition, State Fair Grounds, Indianapolis, Ind., October 8-15, 1949. R. D. Hammer, Room 633, 130 East Washington St., Indianapolis, Ind., Secretary.

**Wisconsin Buttermakers and Managers Association**—Annual convention to be held at Chippewa Falls, Wis., October 11 and 12. Elmer Radtke, Reedsburg, Wis., executive secretary.

**Indiana Dairy Products Association** — Annual convention. Claypool Hotel, Indianapolis, October 17-19, 1949. R. A. Larson, 633 Board of Trade Bldg., Indianapolis 4, Ind., Executive Secretary.

**International Ass'n. of Milk and Food Sanitarians**—Annual convention, Deshler-Wallick Hotel, Columbus, Ohio, October 20-22, 1949. George A. West, 44 Marshall St., Rochester 2, N. Y., Secretary-Treasurer.

**Milk Industry Foundation** — Annual convention will be held in Los Angeles, Calif., October 24 to 26, 1949. Executive director, B. F. Castle, 1001 Fifteenth St., N. W., Washington 5, D. C.

**Iowa Creameries Association** — Convention, Savery Hotel, Des Moines, Iowa, October 21 and 22, 1949. J. S. Quist, 408½ Douglas St., Ames, Iowa, Executive Secretary.

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### BUFFALO MERGER

Buffalo, N. Y.—The merger of two old Buffalo dairy products concerns, T. A. Beale & Sons Inc. and W. H. Beale & Sons, has been announced. They have been serving South Buffalo and nearby communities for at least 65 years.

The new company will be known as the Beale Dairy Inc. Thomas A. Beale, secretary and treasurer of the former T. A. Beale & Sons, is president. He said operations will be expanded, with distribution of Beale dairy products on a city-wide basis.

In recent years the two companies have been managed by the sons of the founders. Besides Thomas Beale, officers of T. A. Beale & Sons have been Norman C. Beale, president, and John L. Beale, vice president and plant manager. Norman Beale is secretary and general manager of the new company and John Beale is a vice president.

●

### HONOR RUSS WILHELM

Two honors have come to Russell B. (Russ) Wilhelm, manager of the Dairy Sales Division of Owens-Illinois Glass Company.

Mr. Wilhelm was re-elected recently to his third term as a director of the National Dairy Council which is engaged in nationally promoting the use and consumption of fluid milk and other dairy products. He is a member of the Council's executive committee.

RUSSELL B. WILHELM

At the recent New York meeting of the Dairy Industries Supply Association, Inc., Mr. Wilhelm was re-elected to the board of directors for the second consecutive term. This organization is composed of manufacturers of equipment and supplies for the dairy industry.

Mr. Wilhelm has been active on various committees and with organizations interested in the packaging and distribution of fluid milk. He has been closely identified with the development and improvement of glass packages for the dairy industry, including Applied Color Lettering, lighter weight bottles, smaller finishes to economize on capping costs, and bottle design, including the present Handi-Square style bottle and the two-quart bottle.

### DAIRY BARNS UNNECESSARY

Ithaca, N. Y.—"The dairy barn is on trial; farmers may some day be building milking parlors instead," Prof. C. N. Turner of Cornell's agricultural engineering department reported to the operating committee of the New York State Farm Electrification Council in a meeting at Alfred, N. Y.

Professor Turner described his six months' summer trip to 14 state colleges throughout the northwest and the northeast. One highlight of the trip was the experiment at Wisconsin's Agricultural College where in the past two winters scientists have found that cows with only a wind shelter and milked in small "parlors", do just as well as cows in the conventional dairy barns.

Turner was also much impressed with work at the Missouri Agricultural College where, in an experiment, 12 cows live a regulated life in a psycho-energetic laboratory. Every condition possible is controlled, such as humidity, temperature, feed, and liquid.

The committee also reviewed research into the uses of electricity on New York farms. Its research council has been studying problems of milk house heating, floor heat to keep poultry litter dry, automatic watering systems, dairy stable ventilation and automatic poultry feeders.

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# DISI Helps Cuba

In response to a request from Cuban government officials, Dairy Industries Society, International, is assisting Cuba in simplifying its current milk regulations.

Early compulsory pasteurization for Havana is a goal of responsible Cubans, reports Robert Rosenbaum, Chairman of DISI's Board, who has recently returned from an extensive tour in the West Indies designed to stimulate dairy industrial development in that area.

Progress has already been made toward an early launching of a Cuban Dairy Council, to bring latest methods of production, processing and distribution to the attention of dairy interests in Cuba, to serve as a coordinating agency among different branches of the industry and to acquaint the Cuban public with the merits of milk and dairy products.

The proposed Council, its organizers plan, also will be authorized to create and administer a dairy development fund, from which improvement loans will be made at moderate rates of interest to small producers who would not otherwise be able to modernize.

A field representative of DISI, Philip Hanopole of Ideal Dairy Farms, Union, New Jersey, U. S. A., went to Cuba in April to aid further in the details of launching the organization, the Society's Board Chairman having done the broader preliminary consultative work. The Council's intent is to collaborate closely with DISI.

"Our activities in relation to Cuba," DISI spokesmen in Washington, D. C., asserted in discussing the Rosenbaum West Indian consultative trip, "are a part of the wide program undertaken by the Society's Area Development Committee, of which Mr. Rosenbaum is currently the chairman. The program is not limited to a particular area but is pointed educationally and through such direct field work by experts as can be organized toward a modernizing and energizing of all phases of milk production, processing and distribution in all parts of the world where progress so far has been relatively retarded. The Society now has a nucleus of members in 46 countries."

"A first Cuban compulsory pasteurization law is projected in the island for application to the city of Havana, since, according to a general consensus of opinion there, it is in the capital city that facilities for enforcement are the most assuring," Mr. Rosenbaum declared.

"The problem of milk control and inspection for bacteria count in Cuba is more complex than in some other countries," he elaborated, "because of the great number of producer-distributors who bring small amounts of milk into the cities from the surrounding areas. Pasteurizing facilities in Havana are inadequate, although there are six plants with pasteurizing equipment, one of which is highly modern. However, a rapidly increasing number of small producers are installing modern equipment. An expansion of plants is necessary to provide an outlet for the many independent producers of raw milk."

Through the cooperation of DISI, a model set of by-laws has been drafted, which calls for eventual formation of regional committees to channel help and information to all communities on the island. It provides for an Advisory Committee (in addition to a Board of Directors) to be composed of public officials from the fields of agriculture, health, commerce, and education, and of representation from prominent civic groups.

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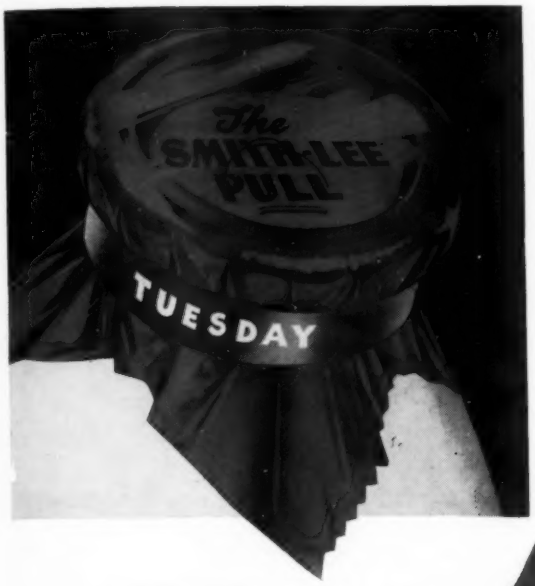


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